



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

DEC 31 2013

SPECIAL NOTICE LETTER -- URGENT LEGAL MATTER
PROMPT REPLY NECESSARY, CERTIFIED MAIL: 7010 2780 0002 4354 8245
RETURN RECEIPT REQUESTED

Chintan K. Amin
Senior Counsel
Bayer Corporation
Pittsburgh, Pennsylvania 15241

Re: Cedar Chemical Corporation Superfund Site, West Helena, Phillips County, Arkansas
Request that you fund or perform RI/FS and reimbursement of costs
Special Notice: Please respond with a good-faith offer within 60 days

Dear Sir/Madam:

The purpose of this letter is to invite Bayer Corporation as a Potentially Responsible Party (PRP) to enter into negotiations with the U.S. Environmental Protection Agency (EPA) to undertake a Remedial Investigation and Feasibility Study (RI/FS) regarding hazardous substance contamination at the Cedar Chemical Corporation Superfund Site in West Helena, Phillips County, Arkansas (Site). The EPA has determined that there is a release or a substantial threat of a release of hazardous substance(s) at or from the Site and has identified numerous parties as owner/operator or an arranger/generator who shipped hazardous substances to the Site. The EPA has determined that there is contamination in the ground at the Site. According to copies of deed records and toll manufacturing agreements, you generated or shipped material containing a hazardous substance to the Site. Based on your status as an arranger/generator or transporter, the EPA has determined that you are potentially liable under Section 107(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), 42 U.S.C. § 9607(a), and are responsible for the cleanup of the Site, including all past costs incurred by the EPA in responding to releases at the Site. The EPA is now contacting you and each PRP to offer an opportunity to enter into negotiations to perform the selected response and resolve the liability for the Site.

Opportunity to Negotiate

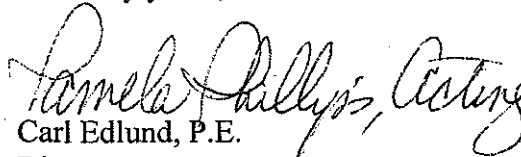
On behalf of the EPA, I am offering you this opportunity to enter into negotiations because the EPA believes that Bayer Corporation may be responsible for the cleanup of the Site under the Superfund Law. I have enclosed a "special notice" which explains that responsibility more clearly in Enclosure 1. This notice also explains the purpose of the enclosed Draft Administrative Order on Consent in Enclosure 2 and the enclosed Draft Statement of Work, which is Enclosure 3. A summary of past costs can be found in Enclosure 4. A list of all parties receiving this letter is contained in Enclosure 5. Enclosure 6 includes one document as an example showing evidence that you sent hazardous substances to the Cedar Chemical Corporation Superfund Site.

Within fourteen (14) days of the receipt of this letter, I ask you to contact the EPA Superfund Cost Recovery Enforcement Officer, Mr. Lance Nixon at (214) 665-2203 or nixon.lance@epa.gov, or have your attorney contact the EPA Assistant Regional Counsel, Marvin Benton, at (214) 665-3190 or benton.marvin@epa.gov, and let the EPA know whether you plan to enter into on-going, good-faith negotiations to enter into a settlement agreement with the EPA to perform a Remedial Investigation and Feasibility Study at the Site.

My staff will be available to explain the Superfund program and special notice process to you and respond to any concerns and questions you may have. If you or your attorney have legal questions, please call Mr. Benton at (214) 665-3190. If you have technical questions about the Site, please contact the Remedial Project Manager, Mr. Philip Allen, at (214) 665-8516. If you have any other questions, please contact Mr. Nixon at the number above.

We look forward to working with you during the coming months.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Carl Edlund", is written over the typed name.

Carl Edlund, P.E.

Director

Superfund Division

Enclosures (6)

ENCLOSURE 1

ENCLOSURE 1

SPECIAL NOTICE REGARDING REMEDIAL INVESTIGATION AND FEASIBILITY STUDY CEDAR CHEMICAL CORPORATION SUPERFUND SITE WEST HELENA, PHILLIPS COUNTY, ARKANSAS

This Special Notice is from the U.S. Environmental Protection Agency (EPA). This notice says you may be liable for the costs of the cleanup of hazardous substances released into the environment at the Cedar Chemical Corporation (CCC) Superfund Site (Site) which is located in West Helena, Phillips County, Arkansas.

This notice provides you with information in four categories:

1. First, this notice tells you that you may be liable for the cleanup of hazardous substances, including acetic acid, benzoic acid, carbon tetrachloride, butyl amine, copper, copper cyanide, and sodium cyanide, at the Cedar Chemical Corporation Superfund Site (Site). This notice is issued under the Comprehensive Environmental Response, Compensation, and Liability Act, which is abbreviated as "CERCLA." CERCLA is also known as Superfund.
2. Second, this notice asks you to pay certain costs and/or to finance or perform a Remedial Investigation and Feasibility Study (RI/FS) regarding the hazardous substance contamination on the Site under a settlement agreement with the EPA. The purpose of the Remedial Investigation is to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from the Site. The purpose of the Feasibility Study is to determine and evaluate alternatives for remedial action to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site.
3. Third, this notice requests that you respond within 14 days from your receipt of this notice on whether you wish to be added to the on-going negotiations to enter into a settlement to conduct or finance the RI/FS.
4. Fourth, this notice explains that the EPA will consider any party's ability to pay in determining an appropriate settlement amount and/or performance of the RI/FS.

BACKGROUND

The Site is a former specialty chemical manufacturing facility located on about 48 acres of property at West Helena, Arkansas. Its business address is 49 Phillips Road. The Site is bounded by Arkansas Highway 242 to the northwest, the Union Pacific Railway to the northeast, and other industrial park properties to the southeast and southwest. Residential areas are located within one half mile southwest and northeast of the Site. The Site consists of six separate processing units, laboratories, a finished goods warehouse, a storm water pond, a wastewater treatment plant, a warehouse and various other buildings. The Site was originally constructed in 1970 as a Propanil manufacturing facility by the Helena Chemical Company. The Site was owned and operated by Cedar Chemical Corporation from approximately 1986 until October 2002. Environmental issues associated with the Site included abandoned chemicals, buried drums, a constructed drum vault filled with unknown chemicals, ground water contamination, surface and subsurface soil contamination, and an abandoned storm water and wastewater treatment system. There were a number of hazardous chemicals present at the Site. These substances included, but were not limited to, acetic acid, benzoic acid, carbon tetrachloride, butyl amine, copper, copper cyanide, and sodium cyanide.

I. NOTICE THAT YOU MAY BE LIABLE

CERCLA says that four types of persons (entities) are liable for cleaning up (or paying the EPA to clean up) hazardous substances that have been released. The four types of liable persons are:

1. Persons who now own the place where the hazardous substance was released;
2. Persons who once owned or operated the place where the hazardous substance was released during the time when the hazardous substance was disposed of;
3. Persons who arranged for disposal or treatment of hazardous substances at the place where the hazardous substance was released; or
4. Persons who selected the place where the hazardous substance was released as a disposal site and transported the hazardous substances to that place.

The EPA's term for these persons is Potentially Responsible Parties or PRPs.

You may want to read the section of the CERCLA law, which tells which persons are liable for the cost of cleaning up hazardous substances. CERCLA can be found in Title 42 of the United States Code (U.S.C.) in Sections 9601 through 9675. The part of CERCLA which tells about these responsible parties can be found at Section 9607. Definitions of terms used in CERCLA can be found in Section 9601. Section 9607 is sometimes called Section 107, the section number which it has in the act of Congress.

Records which we have on hand indicate that you generated or transported hazardous substances to the Cedar Chemical Corporation Superfund Site. Accordingly, you may be a potentially responsible party (PRP) under the Superfund law. The EPA invites you to take stock of the evidence and to enter into the enclosed AOC for RI/FS on the Site in order to settle your liability with the EPA with respect to this matter.

II NEGOTIATION PERIOD AND MORATORIUM REGARDING CERTAIN ACTIVITY AT THE SITE

The EPA has determined that use of the special notice procedures specified in CERCLA Section 122(e), 42 U.S.C. § 9622(e), may facilitate a settlement between the EPA and the PRPs the EPA has thus far identified. Therefore, pursuant to CERCLA Section 122(e)(2)(C), 42 U.S.C. § 9622(e)(2)(C), this notice offers you the opportunity to negotiate a settlement, to conduct an RI/FS at the Site. The settlement will provide for you and other PRPs to: (1) conduct or finance the RI/FS activities required for the Site, and (2) reimburse the EPA for costs to be incurred in overseeing the PRPs' performance of the RI/FS.

If settlement is reached between the EPA and the PRPs, the settlement will be embodied in an AOC to be issued by the Superfund Division Director, EPA Region 6.

A draft AOC, written specifically for the Site, and a draft Statement of Work (SOW) for the RI/FS activities are enclosed (Enclosure 2 and 3, respectively). An electronic version of the draft AOC and SOW may be obtained from EPA Assistant Regional Counsel Mr. Marvin Benton at (214) 665-3190.

III PLEASE RESPOND WITHIN 14 DAYS OF YOUR RECEIPT OF THIS LETTER

Please use the enclosed draft AOC and draft SOW to assist you in determining whether you wish to negotiate a settlement to conduct the RI/FS and for reimbursing the EPA for future oversight costs. Please provide in writing a statement that you are willing to negotiate the performance and/or financing of the RI/FS in a manner consistent with the EPA's draft SOW and draft AOC and that you are also willing to negotiate the means to reimburse the EPA for response costs to be incurred in overseeing the PRPs performance of the RI/FS.

If the EPA determines that you have not submitted a statement within the 14-day period, the EPA may, thereafter, terminate its offer inviting you to the negotiation moratorium period pursuant to Subsection 122(e)(4) of CERCLA, 42 U.S.C. § 9622(e)(4), and commence such response activities or enforcement actions as may be appropriate.

Please mail, fax or email your statement to Mr. Marvin Benton at the following address:

Marvin Benton
Assistant Regional Counsel (6RC-S)
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, TX 75202-2733
(214) 665-3190
FAX (214) 665-6460
E-mail: benton.marving@epa.gov

ENCLOSURE 2

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 6

IN THE MATTER OF:
Cedar Chemical SUPERFUND SITE
West Helena, Phillips County, Arkansas

ADMINISTRATIVE ORDER ON
CONSENT FOR REMEDIAL
INVESTIGATION/FEASIBILITY STUDY

See Appendix A for List of Respondents,
Respondents

U.S. EPA Region 6
CERCLA Docket No. _____

Proceeding Under Sections 104, 107 and
122 of the Comprehensive Environmental
Response, Compensation, and Liability Act,
as amended, 42 U.S.C. §§ 9604, 9607 and
9622.

ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT
FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY

I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Settlement Agreement and Order on Consent ("Settlement Agreement") is entered into voluntarily by the United States Environmental Protection Agency ("EPA") and the Respondents listed in Appendix A, incorporated by reference herein ("Respondents"). The Settlement Agreement concerns the preparation and performance of a remedial investigation and feasibility study ("RI/FS") at the Cedar Chemical Superfund Site ("Site"), located at 49 Phillips Road, West Helena, Phillips County, Arkansas and the reimbursement for future response costs incurred by EPA in connection with the RI/FS.

2. This Settlement Agreement and Order on Consent is issued under the authority vested in the President of the United States by Sections 104, 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §§ 9604, 9607 and 9622 ("CERCLA"). This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2926 (Jan. 29, 1987), and further delegated to Regional Administrators on May 11, 1994, by EPA Delegation Nos. 14-14-C and 14-14-D. This authority was further redelegated by the Regional Administrator of EPA Region 6 to the Superfund Division Director by (insert the numerical designations and dates of regional delegation).

3. In accordance with Sections 104(b)(2) and 122(j)(1) of CERCLA, 42 U.S.C. §§ 9604(b)(2) and 9622(j)(1), EPA notified the Federal and State natural resource trustees on

_____, 2012, of negotiations with potentially responsible parties regarding the release of hazardous substances that may have resulted in injury to the natural resources under Federal and State trusteeship.

4. EPA and Respondents recognize that this Settlement Agreement and Order on Consent has been negotiated in good faith and that the actions undertaken by Respondents in accordance with this Order do not constitute an admission of any liability. Respondents do not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Settlement Agreement and Order on Consent, the validity of the findings of fact, conclusions of law and determinations in Sections V and VI of this Settlement Agreement and Order on Consent. Respondents agree to comply with and be bound by the terms of this Order and further agree that they will not contest the basis or validity of this Settlement Agreement and Order on Consent or its terms.

II. PARTIES BOUND

5. This Settlement Agreement and Order on Consent applies to and is binding upon EPA and upon Respondents and their heirs, successors and assigns. Any change in ownership or corporate status of a Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent's responsibilities under this Settlement Agreement.

6. Respondents are jointly and severally liable for carrying out all activities required by this Settlement Agreement and Order on Consent. In the event of the insolvency or other failure of any one or more Respondents to implement the requirements of this Settlement Agreement and Order on Consent, the remaining Respondents shall complete all such requirements.

7. Respondents shall ensure that their contractors, subcontractors, and representatives receive a copy of this Settlement Agreement and Order on Consent and comply with this Settlement Agreement and Order on Consent. Respondents shall be responsible for any noncompliance with this Settlement Agreement and Order on Consent.

8. Each undersigned representative of Respondents certifies that he or she is fully authorized to enter into the terms and conditions of this Settlement Agreement and Order on Consent and to execute and legally bind Respondents to this Settlement Agreement and Order on Consent.

III. STATEMENT OF PURPOSE

9. In entering into this Settlement Agreement and Order on Consent, the objectives of EPA and Respondents are: (a) to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from the Site, by conducting a Remedial Investigation as more specifically set forth in the Statement of Work ("SOW") attached as Appendix B to this Settlement Agreement and Order on Consent; (b) to identify and evaluate

remedial alternatives to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site, by conducting a Feasibility Study as more specifically set forth in the SOW in Appendix B to this Order; and (c) to recover response and oversight costs incurred by EPA with respect to this Order.

10. The Work conducted under this Settlement Agreement and Order on Consent is subject to approval by EPA and shall provide all appropriate and necessary information to assess Site conditions and evaluate alternatives to the extent necessary to select a remedy that will be consistent with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300 ("NCP"). Respondents shall conduct all Work under this Settlement Agreement and Order on Consent in compliance with CERCLA, the NCP, and all applicable EPA guidances, policies, and procedures.

IV. DEFINITIONS

11. Unless otherwise expressly provided herein, terms used in this Settlement Agreement and Order on Consent that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Settlement Agreement and Order on Consent or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

a. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601, *et seq.*

b. "Day" shall mean a calendar day. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next working day.

c. "Effective Date" shall be the effective date of this Order as provided in Section XXIX.

d. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

e. "Texas Commission on Environmental Quality" shall mean the State pollution control agency and any successor departments or agencies of the State.

f. "Engineering Controls" shall mean constructed containment barriers or systems that control one or more of the following: downward migration, infiltration or seepage of surface runoff or rain; or natural leaching migration of contaminants through the subsurface over time. Examples include caps, engineered bottom barriers, immobilization processes, and vertical barriers.

g. "Future Response Costs" shall mean all costs, including, but not limited to,

direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Order, verifying the Work, or otherwise implementing, overseeing, or enforcing this Order, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, Agency for Toxic Substances and Disease Registry ("ATSDR") costs, the costs incurred pursuant to Paragraph 54 (costs and attorneys fees and any monies paid to secure access, including the amount of just compensation), Paragraph 40 (emergency response), and Paragraph 84 (Work takeover)".

h. "Institutional controls" shall mean non-engineered instruments, such as administrative and/or legal controls, that help to minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land and/or resource use. Examples of institutional controls include easements and covenants, zoning restrictions, special building permit requirements, and well drilling prohibitions.

i. "Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

j. "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

k. "Settlement Agreement" shall mean this Administrative Settlement Agreement and Order on Consent, the SOW, all appendices attached hereto (listed in Section XXVII) and all documents incorporated by reference into this document including without limitation EPA-approved submissions. EPA-approved submissions (other than progress reports) are incorporated into and become a part of the Settlement Agreement upon approval by EPA. In the event of conflict between this Settlement Agreement and any appendix or other incorporated documents, this Settlement Agreement shall control.

l. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral.

m. "Parties" shall mean EPA and Respondents.

n. "RCRA" shall mean the Resource Conservation and Recovery Act, also known as the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901, *et seq.*

o. "Respondents" shall mean those Parties identified in Appendix A.

p. "Section" shall mean a portion of this Order identified by a Roman numeral.

q. "Site" shall mean the Cedar Chemical Corporation Superfund Site, encompassing approximately 48 acres, located at 49 Phillips Road, West Helena, Phillips

County, Arkansas and depicted generally on the map attached as Appendix C.

r. "State" shall mean the State of Arkansas.

s. "Statement of Work" or "SOW" shall mean the Statement of Work for development of a RI/FS for the Site, as set forth in Appendix B to this Order. The Statement of Work is incorporated into this Order and is an enforceable part of this Order as are any modifications made thereto in accordance with this Order.

t. "Waste Material" shall mean (1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); (3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

u. "Work" shall mean all activities Respondents are required to perform under this Order, except those required by Section XIV (Retention of Records).

V. FINDINGS OF FACT

12. The Cedar Chemical Superfund site is located in Phillips County, Arkansas, south of West Helena. The site consists 48 acres along State Highway 242, 1 mile southwest of the intersection of U.S. Highway 49 and Highway 242. The site is in the Helena-West Helena Industrial Park, and includes six former production units, support facilities and an office on the north side of Industrial Park Road. A biological treatment system is located south of Industrial Park Road, Arkansas Highway 242 to the northwest, a Union Pacific railway to the northeast, and other industrial park properties to the southeast and southwest bound the site.

13. The Facility was initially operated by Helena Chemical in 1970. The Facility was purchased by Eagle River Chemical and was operated for approximately 18 months by Ansul under the name of Eagle River Chemical. During this time period, dinoseb was produced on the site. From 1971 to 2002, the facility manufactured or processed a variety of agricultural and organic chemicals under various owners and operators. The last owner of record was Cedar Chemical Corporation. On March 8, 2002, Cedar Chemical Corporation filed for bankruptcy. Manufacturing and plant operations were shut down shortly thereafter. The Arkansas Department of Environmental Quality (ADEQ) assumed control of the facility on October 12, 2002, and currently acts as the caretaker of the facility.

14. Hazardous substances detected in soils at concentrations greater than risk-based screening criteria include Arsenic, Cadmium, Mercury, Aldrin, Dieldrin, Dinoseb, Heptachlor, Methoxychlor, Toxaphene, 3,4-Dichloroaniline, Propanil, Chloroform, 1,2-Dichloroethane, Methylene Chloride, and Pentachlorophenol. Hazardous substances detected in groundwater at concentrations greater than risk-based screening criteria and/or Maximum Contaminant Levels (MCLs) include Arsenic, Barium, Cadmium, Chromium, Lead, 4,4'-DDT, Alpha BHC, Aniline, 4-Chloroaniline, Chlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, Chloroethane, 1,4-Dichlorobenzene, 2,6-Dinitrotoluene, 3,4-Dichloroaniline, 4Chlorozniline, Dinoseb, bis(2-

Chloroethyl)ether, bis(2-Ethylhexyl) phthalate, 1,2-Dichloroethane, 4Methyl-2-Pentanone, 2-Methylphenol, Acetone, Benzene, Chloroform, Vinyl Chloride, Methylene Chloride, Trichloroethene, 1,1,2Trichloroethane, 1,2-Dichloropropane, Bromodichloromethane, Bromoform, Dibromochloromethane, and Toluene.

In summary, the surface soils and subsurface soils are contaminated with pesticides, volatile organics, and heavy metals. The onsite surface water bodies and groundwater are contaminated with volatile organics and heavy metals. The sediments are contaminated with pesticides and heavy metals. Eighty (80) Solid Waste Management Units (SWMUs) (including approx. 30 sumps and 10 drum/drum storage/drum crushing areas) have been identified onsite to date that are deemed areas of concern.

15. Site investigations have concluded significant impacts to surface soils, subsurface soils, surface water and groundwater. The chemicals used onsite in the processes included volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, and metals. These constituents have been detected in the respective media in concentrations greater than background. The levels detected are at concentrations that could continue to contribute to groundwater contamination and at levels which could pose an unacceptable risk to human health and/or the environment under various exposure scenarios.

16. The EPA has not selected a remedy for the site. A public notice announcing the proposal of the Cedar Chemical site for inclusion on the National Priorities List (NPL) was published on April 10, 2012 and again on April 13, 2012. A second public notice was published on September 14, 2012, announcing the inclusion of the Cedar Chemical site on the NPL. Both of the publications were placed in The Helena World.

17. The Environmental Protection Agency (EPA) is in the process of conducting enforcement actions, to identify and notify Potentially Responsible Parties (PRPs) of their obligation to perform cleanup investigations and actions to.

18. The Site was listed on the National Priorities List ("NPL") pursuant to CERCLA Section 105, 42 U.S.C. § 9605, on September 14, 2012.

19. The list of Respondents in Appendix A numbered 1 through 9 sent, transported or arranged to have sent or transported waste material containing hazardous substances found at the Site for disposal or treatment at the Site while it was owned and/or operated by the Cedar Chemical Corporation.

20. The list of Respondents in Appendix A numbered 10 and 11 previously owned and/or operated one or more of the properties within the Site at the time hazardous substances were released.

VI. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set forth above, EPA has determined that:

21. The Cedar Chemical Superfund Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

22. The contamination found at the Site, as identified in the Findings of Fact above, includes "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

23. The conditions described in Section V of the Findings of Fact above constitute an actual and/or threatened "release" of a hazardous substance from the facility as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

24. Each Respondent is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

25. Respondents are responsible parties under Sections 104, 107 and 122 of CERCLA, 42 U.S.C. §§ 9604, 9607 and 9622. Each Respondent is a person who either generated the hazardous substances found at the Site, is a person who at the time of disposal of any hazardous substances owned or operated the Site, or is a person who arranged for disposal or transport for disposal of hazardous substances at the Site. Each Respondent therefore may be liable under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

26. The actions required by this Order are necessary to protect the public health, welfare or the environment, are in the public interest, 42 U.S.C. § 9622(a), are consistent with CERCLA and the NCP, 42 U.S.C. §§ 9604(a)(1), 9622(a), and will expedite effective remedial action and minimize litigation, 42 U.S.C. § 9622(a).

27. EPA has determined that Respondents are qualified to conduct the RI/FS within the meaning of Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), and will carry out the Work properly and promptly, in accordance with Sections 104(a) and 122(a) of CERCLA, 42 U.S.C. §§ 9604(a) and 9622(a), if Respondents comply with the terms of this Order.

VII. SETTLEMENT AGREEMENT AND ORDER

28. Based upon the foregoing Findings of Fact and Conclusions of Law and Determinations, it is hereby Ordered and Agreed that Respondents shall comply with all provisions of this Order, including, but not limited to, all appendices to this Settlement Agreement and Order on Consent and all documents incorporated by reference into this Settlement Agreement and Order on Consent

VIII. DESIGNATION OF CONTRACTORS AND PROJECT COORDINATORS

29. Selection of Contractors, Personnel. All Work performed under this Order shall be under the direction and supervision of qualified personnel. Within 30 days of the Effective Date of this Order, and before the Work outlined below begins, Respondents shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants and laboratories to be used in carrying out such Work. With respect to any proposed contractor, Respondents shall demonstrate that the proposed contractor has a quality system which complies with ANSI/ASQC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995, or most recent version), by submitting a copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)," (EPA/240/B-01/002, March 2001 or subsequently issued guidance) or equivalent documentation as determined by EPA. The qualifications of the persons undertaking the Work for Respondents shall be subject to EPA's review, for verification that such persons meet minimum technical background and experience requirements. If EPA disapproves in writing of any person's technical qualifications, Respondents shall notify EPA of the identity and qualifications of the replacements within 30 days of the written notice. If EPA subsequently disapproves of the replacement, EPA reserves the right to terminate this Order and to conduct a complete RI/FS, and to seek reimbursement for costs and penalties from Respondents. During the course of the RI/FS, Respondents shall notify EPA in writing of any changes or additions in the personnel used to carry out such Work, providing their names, titles, and qualifications. EPA shall have the same right to disapprove changes and additions to personnel as it has hereunder regarding the initial notification.

30. Within 30 days after the Effective Date, Respondents shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondents required by this Order and shall submit to EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site Work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondents shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number and qualifications within 14 days following EPA's disapproval. Respondents shall have the right to change their Project Coordinator, subject to EPA's right to disapprove. Respondents shall notify EPA seven (7) days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. Receipt by Respondents' Project Coordinator of any notice or communication from EPA relating to this Order shall constitute receipt by Respondents.

31. EPA has designated Philip H. Allen, P.E. of the EPA Region 6 Superfund Division as its Remedial Project Manager ("RPM"). EPA will notify Respondents of a change of its designated RPM. Except as otherwise provided in this Order, Respondents shall direct all submissions required by this Order to the RPM at the US EPA Region 6, 6SF-RA, 1445 Ross

Ave., Dallas, TX 75202 or by electronic mail if so directed by the RPM.

32. EPA's RPM shall have the authority lawfully vested in a Remedial Project Manager ("RPM") and On-Scene Coordinator ("OSC") by the NCP. In addition, EPA's RPM shall have the authority consistent with the NCP, to halt any Work required by this Order, and to take any necessary response action when s/he determines that conditions at the Site may present an immediate endangerment to public health or welfare or the environment. The absence of the EPA RPM from the area under study pursuant to this Order shall not be cause for the stoppage or delay of Work.

33. EPA shall arrange for a qualified person to assist in its oversight and review of the conduct of the RI/FS, as required by Section 104(a) of CERCLA, 42 U.S.C. Section 9604(a). Such person shall have the authority to observe Work and make inquiries in the absence of EPA, but not to modify the RI/FS Work Plan.

IX. WORK TO BE PERFORMED

34. Respondents shall conduct the RI/FS in accordance with the provisions of this Order, the SOW, CERCLA, the NCP and EPA guidance, including, but not limited to the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive # 9355.3-01, October 1988 or subsequently issued guidance), "Guidance for Data Useability in Risk Assessment" (OSWER Directive #9285.7-05, October 1990 or subsequently issued guidance), and guidance referenced therein, and guidances referenced in the SOW, as may be amended or modified by EPA. The Remedial Investigation ("RI") shall consist of collecting data to characterize site conditions, determining the nature and extent of the contamination at or from the Site, assessing risk to human health and the environment and conducting treatability testing as necessary to evaluate the potential performance and cost of the treatment technologies that are being considered. The Feasibility Study ("FS") shall determine and evaluate (based on treatability testing, where appropriate) alternatives for remedial action to prevent, mitigate or otherwise respond to or remedy the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site. The alternatives evaluated must include, but shall not be limited to, the range of alternatives described in the NCP, and shall include remedial actions that utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In evaluating the alternatives, Respondents shall address the factors required to be taken into account by Section 121 of CERCLA, 42 U.S.C. § 9621, and Section 300.430(e) of the NCP, 40 C.F.R. § 300.430(e). Upon request by EPA, Respondents shall submit in electronic form all portions of any plan, report or other deliverable Respondents are required to submit pursuant to provisions of this Order.

35. Upon receipt of the draft Feasibility Study ("FS") report, the EPA will evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed and will evaluate the durability, reliability and effectiveness of any proposed Institutional Controls.

36. Modification of the RI/FS Work Plan.

- a. If at any time during the RI/FS process, Respondents identify a need for additional data, Respondents shall submit a memorandum documenting the need for additional data to the EPA RPM within fifteen (15) days of identification. The EPA in its discretion will determine whether the additional data will be collected by Respondents and whether it will be incorporated into plans, reports and other deliverables.
- b. In the event of unanticipated or changed circumstances at the Site, Respondents shall notify the EPA RPM by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In the event that the EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the RI/FS Work Plan, the EPA shall modify or amend the RI/FS Work Plan in writing accordingly. Respondents shall perform the RI/FS Work Plan as modified or amended.
- c. The EPA may determine that in addition to tasks defined in the initially approved RI/FS Work Plan, other additional Work may be necessary to accomplish the objectives of the RI/FS. Respondents agree to perform these response actions in addition to those required by the initially approved RI/FS Work Plan, including any approved modifications, if the EPA determines that such actions are necessary for a complete RI/FS.
- d. Respondents shall confirm their willingness to perform the additional Work in writing to the EPA within 7 days of receipt of the EPA request. If Respondents object to any modification determined by the EPA to be necessary pursuant to this Paragraph, Respondents may seek dispute resolution pursuant to Section XV (Dispute Resolution). The SOW and/or RI/FS Work Plan shall be modified in accordance with the final resolution of the dispute.
- e. Respondents shall complete the additional Work according to the standards, specifications, and schedule set forth or approved by the EPA in a written modification to the RI/FS Work Plan or written RI/FS Work Plan supplement. The EPA reserves the right to conduct the Work itself at any point, to seek reimbursement from Respondents, and/or to seek any other appropriate relief.
- f. Nothing in this Paragraph shall be construed to limit the EPA's authority to require performance of further response actions at the Site.

37. Off-Site Shipment of Waste Material. Respondents shall, prior to any off-site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to the EPA's Designated Project Coordinator. However, this notification requirement shall not apply to any off-site shipments when the total volume of all such shipments will not exceed 10 cubic yards.

- a. Respondents shall include in the written notification the following information:
(1) the name and location of the facility to which the Waste Material is to be shipped: (2) the

type and quantity of the Waste Material to be shipped; (3) the expected schedule for the shipment of the Waste Material; and (4) the method of transportation. Respondents shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

b. The identity of the receiving facility and state will be determined by Respondents following the award of the contract for the remedial investigation and feasibility study. Respondents shall provide the information required by Subparagraph 37.a and 37.c as soon as practicable after the award of the contract and before the Waste Material is actually shipped.

c. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-site location, Respondents shall obtain the EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents shall only send hazardous substances, pollutants, or contaminants from the Site to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

38. Meetings. Respondents shall make presentations at, and participate in, meetings at the request of the EPA during the initiation, conduct, and completion of the RI/FS. In addition to discussion of the technical aspects of the RI/FS, topics will include anticipated problems or new issues. Meetings will be scheduled at the EPA's discretion.

39. Progress Reports. In addition to the plans, reports and other deliverables set forth in this Order, Respondents shall provide to the EPA monthly progress reports by the ___th day of the following month. At a minimum, with respect to the preceding month, these progress reports shall (1) describe the actions which have been taken to comply with this Order during that month, (2) include all results of sampling and tests and all other data received by Respondents, (3) describe Work planned for the next two months with schedules relating such Work to the overall project schedule for RI/FS completion, and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

40. Emergency Response and Notification of Releases.

a. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action. Respondents shall take these actions in accordance with all applicable provisions of this Settlement Agreement and Order on Consent, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondents shall also immediately notify the EPA Project Coordinator or, the Regional Duty

Officer at (866) 372-7745 of the incident or Site conditions. In the event that Respondents fail to take appropriate response action as required by this Paragraph, and the EPA takes such action instead, Respondents shall reimburse the EPA all costs of the response action not inconsistent with the NCP pursuant to Section XVIII (Payment of Response Costs).

b. In addition, in the event of any release of a hazardous substance from the Site, Respondents shall immediately notify the EPA Project Coordinator, the OSC or Regional Duty Officer at (866) 372-7745 and the National Response Center at (800) 424-8802. Respondents shall submit a written report to the EPA within 7 days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, *et seq.*

X. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS

41. After review of any plan, report or other item that is required to be submitted for approval pursuant to this Order, in a notice to Respondents the EPA will: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that Respondents modify the submission; or (e) any combination of the above. However, the EPA shall not modify a submission without first providing Respondents at least one notice of deficiency and an opportunity to cure within fifteen (15 days), except where to do so would cause serious disruption to the Work or where previous submission(s) have been disapproved due to material defects.

42. In the event of approval, approval upon conditions, or modification by the EPA, pursuant to Subparagraph 41(a), (b), (c) or (e), Respondents shall proceed to take any action required by the plan, report or other deliverable, as approved or modified by the EPA subject only to their right to invoke the Dispute Resolution procedures set forth in Section XV (Dispute Resolution) with respect to the modifications or conditions made by the EPA. Following EPA approval or modification of a submission or portion thereof, Respondents shall not thereafter alter or amend such submission or portion thereof unless directed by the EPA. In the event that the EPA modifies the submission to cure the deficiencies pursuant to Subparagraph 41(c) and the submission had a material defect, the EPA retains the right to seek stipulated penalties, as provided in Section XVI (Stipulated Penalties).

43. Resubmission.

a. Upon receipt of a notice of disapproval, Respondents shall, within fifteen (15) days or such longer time as specified by the EPA in such notice, correct the deficiencies and resubmit the plan, report, or other deliverable for approval. Any stipulated penalties applicable to the submission, as provided in Section XVI, shall accrue during the 15-day period or otherwise specified period but shall not be payable unless the resubmission is disapproved or

modified due to a material defect as provided in Paragraphs 44 and 45.

b. Notwithstanding the receipt of a notice of disapproval, Respondents shall proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed by the EPA. Implementation of any non-deficient portion of a submission shall not relieve Respondents of any liability for stipulated penalties under Section XVI (Stipulated Penalties).

c. Respondents shall not proceed further with any subsequent activities or tasks until receiving EPA approval, approval on condition or modification of the following deliverables: RI/FS Work Plan and Sampling and Analysis Plan, Draft Remedial Investigation Report and Treatability Testing Work Plan and Sampling and Analysis Plan and Draft Feasibility Study Report. While awaiting EPA approval, approval on condition or modification of these deliverables, Respondents shall proceed with all other tasks and activities which may be conducted independently of these deliverables, in accordance with the schedule set forth under this Order.

d. For all remaining deliverables not listed above in subparagraph 43.c., Respondents shall proceed with all subsequent tasks, activities and deliverables without awaiting EPA approval on the submitted deliverable. The EPA reserves the right to stop Respondents from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the RI/FS.

44. If the EPA disapproves a resubmitted plan, report or other deliverable, or portion thereof, the EPA may again direct Respondents to correct the deficiencies. The EPA shall also retain the right to modify or develop the plan, report or other deliverable. Respondents shall implement any such plan, report, or deliverable as corrected, modified or developed by the EPA, subject only to Respondents' right to invoke the procedures set forth in Section XV (Dispute Resolution).

45. If upon resubmission, a plan, report, or other deliverable is disapproved or modified by the EPA due to a material defect, Respondents shall be deemed to have failed to submit such plan, report, or other deliverable timely and adequately unless Respondents invoke the dispute resolution procedures in accordance with Section XV (Dispute Resolution) and the EPA's action is revoked or substantially modified pursuant to a Dispute Resolution decision issued by the EPA or superceded by an agreement reached pursuant to that Section. The provisions of Section XV (Dispute Resolution) and Section XVI (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If the EPA's disapproval or modification is not otherwise revoked, substantially modified or superceded as a result of a decision or agreement reached pursuant to the Dispute Resolution process set forth in Section XV, stipulated penalties shall accrue for such violation from the date on which the initial submission was originally required, as provided in Section XVI.

46. In the event the EPA takes over some of the tasks, but not the preparation of the RI Report or the FS Report, Respondents shall incorporate and integrate information supplied by the

EPA into the final reports.

47. All plans, reports, and other deliverables submitted to the EPA under this Order shall, upon approval or modification by the EPA, be incorporated into and enforceable under this Order. In the event the EPA approves or modifies a portion of a plan, report, or other deliverable submitted to the EPA under this Order, the approved or modified portion shall be incorporated into and enforceable under this Settlement Agreement and Order on Consent.

48. Neither failure of the EPA to expressly approve or disapprove of Respondents' submissions within a specified time period, nor the absence of comments, shall be construed as approval by the EPA. Whether or not the EPA gives express approval for Respondents' deliverables, Respondents are responsible for preparing deliverables acceptable to the EPA.

XI. QUALITY ASSURANCE, SAMPLING, AND ACCESS TO INFORMATION

49. Quality Assurance. Respondents shall assure that Work performed, samples taken and analyses conducted conform to the requirements of the SOW, the QAPP and guidances identified therein. Respondents will assure that field personnel used by Respondents are properly trained in the use of field equipment and in chain of custody procedures. Respondents shall only use laboratories which have a documented quality system that complies with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001) or equivalent documentation as determined by EPA.

50. Sampling.

a. All results of sampling, tests, modeling or other data (including raw data) generated by Respondents, or on Respondents' behalf, during the period that this Order is effective, shall be submitted to the EPA in the next monthly progress report as described in Paragraph 39 of this Settlement Agreement and Order on Consent. The EPA will make available to Respondents validated data generated by the EPA unless it is exempt from disclosure by any federal or state law or regulation.

b. Respondents shall verbally notify the EPA at least seven (7) days prior to conducting significant field events as described in the SOW, RI/FS Work Plan or Sampling and Analysis Plan. At the EPA's verbal or written request, or the request of the EPA's oversight assistant, Respondents shall allow split or duplicate samples to be taken by the EPA (and its authorized representatives) of any samples collected in implementing this Order. All split samples of Respondents shall be analyzed by the methods identified in the QAPP.

51. Access to Information.

a. Respondents shall provide to the EPA, upon request, copies of all documents and information within their possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Order, including, but not limited to,

sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondents shall also make available to the EPA, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

b. Respondents may assert business confidentiality claims covering part or all of the documents or information submitted to the EPA under this Order to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by the EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when it is submitted to the EPA, or if the EPA has notified Respondents that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondents. Respondents shall segregate and clearly identify all documents or information submitted under this Order for which Respondents assert business confidentiality claims.

c. Respondents may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Respondents assert such a privilege in lieu of providing documents, they shall provide the EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted by Respondents. However, no documents, reports or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.

d. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

52. In entering into this Settlement Agreement and Order on Consent, Respondents waive any objections to any data gathered, generated, or evaluated by the EPA, the State or Respondents in the performance or oversight of the Work that has been verified according to the quality assurance/quality control ("QA/QC") procedures required by the Order or any EPA-approved RI/FS Work Plans or Sampling and Analysis Plans. If Respondents object to any other data relating to the RI/FS, Respondents shall submit to the EPA a report that specifically identifies and explains its objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to the EPA within 15 days of the monthly progress report containing the data.

XII. SITE ACCESS AND INSTITUTIONAL CONTROLS

53. If the Site, or any other property where access is needed to implement this Order, is owned or controlled by any of Respondents, such Respondents shall, commencing on the Effective Date, provide the EPA and its representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Order.

54. Where any action under this Settlement Agreement and Order on Consent is to be performed in areas owned by or in possession of someone other than Respondents, Respondents shall use their best efforts to obtain all necessary access agreements within 30 days after the Effective Date, or as otherwise specified in writing by the EPA Project Coordinator. Respondents shall immediately notify the EPA if after using their best efforts they are unable to obtain such agreements. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access. Respondents shall describe in writing their efforts to obtain access. If Respondents cannot obtain access agreements, the EPA may either (i) obtain access for Respondents or assist Respondents in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as the EPA deems appropriate; (ii) perform those tasks or activities with EPA contractors; or (iii) terminate the Order. Respondents shall reimburse the EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XVIII (Payment of Response Costs). If the EPA performs those tasks or activities with EPA contractors and does not terminate the Order, Respondents shall perform all other tasks or activities not requiring access to that property, and shall reimburse the EPA for all costs incurred in performing such tasks or activities. Respondents shall integrate the results of any such tasks or activities undertaken by the EPA into its plans, reports and other deliverables.

55. Notwithstanding any provision of this Settlement Agreement and Order on Consent, the EPA retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

XIII. COMPLIANCE WITH OTHER LAWS

56. Respondents shall comply with all applicable local, state and federal laws and regulations when performing the RI/FS. No local, state, or federal permit shall be required for any portion of any action conducted entirely on-site, including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work is to be conducted off-site and requires a federal or state permit or approval, Respondents shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. This Order is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

XIV. RETENTION OF RECORDS

57. During the pendency of this Settlement Agreement and Order on Consent and for a minimum of 10 years after commencement of construction of any remedial action, each Respondent shall preserve and retain all non-identical copies of documents, records, and other information (including documents, records, or other information in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. Until 10 years after commencement of construction of any remedial action, Respondents shall also instruct their contractors and agents to preserve all documents, records, and other information of whatever kind, nature or description relating to performance of the Work.

58. At the conclusion of this document retention period, Respondents shall notify the EPA at least 90 days prior to the destruction of any such documents, records or other information, and, upon request by the EPA, Respondents shall deliver any such documents, records, or other information to the EPA. Respondents may assert that certain documents, records, and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondents assert such a privilege, they shall provide the EPA with the following: 1) the title of the document, record, or other information; 2) the date of the document, record, or other information; 3) the name and title of the author of the document, record, or other information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or other information; and 6) the privilege asserted by Respondents. However, no documents, records or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.

59. Each Respondent hereby certifies individually that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by the EPA or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

XV. DISPUTE RESOLUTION

60. Unless otherwise expressly provided for in this Settlement Agreement and Order on Consent, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement Agreement and Order on Consent. The Parties shall attempt to resolve any disagreements concerning this Settlement Agreement and Order on Consent expeditiously and informally.

61. If Respondents object to any EPA action taken pursuant to this Settlement Agreement and Order on Consent, including billings for Future Response Costs, they shall notify

the EPA in writing of their objection(s) within 30 days of such action, unless the objection(s) has/have been resolved informally. The EPA and Respondents shall have 60 days from the EPA's receipt of Respondents' written objection(s) to resolve the dispute (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of the EPA. Such extension may be granted verbally but must be confirmed in writing.

62. Any agreement reached by the Parties pursuant to this Section shall be in writing and shall, upon signature by the Parties, be incorporated into and become an enforceable part of this Settlement Agreement and Order on Consent. If the Parties are unable to reach an agreement within the Negotiation Period, an EPA management official at the Division Director level or higher will issue a written decision. The EPA's decision shall be incorporated into and become an enforceable part of this Settlement Agreement and Order on Consent. Respondents' obligations under this Settlement Agreement and Order on Consent shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondents shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with the EPA's decision, whichever occurs, and regardless of whether Respondents agree with the decision.

XVI. STIPULATED PENALTIES

63. Respondents shall be liable to the EPA for stipulated penalties in the amounts set forth in Paragraphs 64 and 65 for failure to comply with any of the requirements of this Order specified below unless excused under Section XVII (Force Majeure). "Compliance" by Respondents shall include completion of the Work under this Settlement Agreement and Order on Consent or any activities contemplated under any RI/FS Work Plan or other plan approved under this Order identified below, in accordance with all applicable requirements of law, this Order, the SOW, and any plans or other documents approved by the EPA pursuant to this Order and within the specified time schedules established by and approved under this Settlement Agreement and Order on Consent.

64. Stipulated Penalty Amounts - Work.

a. The following stipulated penalties shall accrue per day for any noncompliance identified in Subparagraph 64(b):

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 1500	1 st through 14 th day
\$ 2000	15 th through 30 th day
\$ 2500	31 st day and beyond

b. Compliance Milestones

1. Payment of Future Response Costs
2. Establishment of Escrow Accounts in the event of Disputes
3. Implementation of the Work Plan in accordance with the schedule provided in the plan and in the SOW.
4. Implementation of the Sampling and Analysis Plan in accordance with the schedule provided in the plan and in the SOW.
5. Completion of Site Characterization in accordance with the provisions and schedule in the Work Plan and SOW.

65. Stipulated Penalty Amounts - Reports.

a. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate reports or other written documents pursuant to Paragraphs 34 through 39:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$ 1500	1 st through 14 th day
\$ 2000	15 th through 30 th day
\$ 2500	31 st day and beyond

66. In the event that the EPA assumes performance of a portion or all of the Work pursuant to Paragraph 84 of Section XX (Reservation of Rights by the EPA), Respondents shall be liable for a stipulated penalty in the amount of \$500,000.

67. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (1) with respect to a deficient submission under Section X (EPA Approval of Plans and Other Submissions), during the period, if any, beginning on the 31st day after the EPA's receipt of such submission until the date that the EPA notifies Respondents of any deficiency; and (2) with respect to a decision by the EPA Management Official designated in Paragraph 62 of Section XV (Dispute Resolution), during the period, if any, beginning on the 21st day after the Negotiation Period begins until the date that the EPA Management Official issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement and Order on Consent.

68. Following the EPA's determination that Respondents have failed to comply with a requirement of this Settlement Agreement and Order on Consent, the EPA may give Respondents written notification of the same and describe the noncompliance. The EPA may send Respondents a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether the EPA has notified

Respondents of a violation.

69. All penalties accruing under this Section shall be due and payable to the EPA within 30 days of Respondents' receipt from the EPA of a demand for payment of the penalties, unless Respondents invoke the dispute resolution procedures in accordance with Section XV (Dispute Resolution). All payments to the EPA under this Section shall be paid by certified or cashier's check(s) made payable to "EPA Hazardous Substances Superfund," shall be mailed to the U.S. Environmental Protection Agency, Superfund Payments, Cincinnati Finance Center, P.O. Box 979076, St. Louis, MO 63197-9000, shall indicate that the payment is for stipulated penalties, and shall reference the EPA Region and Site/Spill ID Number A6X7, the EPA Docket Number _____, and the name and address of the party(ies) making payment. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s) shall be sent to the EPA as provided in Paragraph 31, and to Ms. Cynthia Brown, U.S. EPA Region 6, 6SF-TE, 1445 Ross Avenue, Dallas, TX 75202.

70. The payment of penalties shall not alter in any way Respondents' obligation to complete performance of the Work required under this Settlement Agreement and Order on Consent.

71. Penalties shall continue to accrue as provided in Paragraph 67 during any dispute resolution period, but need not be paid until 15 days after the dispute is resolved by agreement or by receipt of the EPA's decision.

72. If Respondents fail to pay stipulated penalties when due, the EPA may institute proceedings to collect the penalties, as well as Interest. Respondents shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 69.

73. Nothing in this Settlement Agreement and Order on Consent shall be construed as prohibiting, altering, or in any way limiting the ability of the EPA to seek any other remedies or sanctions available by virtue of Respondents' violation of this Settlement Agreement and Order on Consent or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(l) of CERCLA, 42 U.S.C. § 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that the EPA shall not seek civil penalties pursuant to Section 122(l) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of willful violation of this Order or in the event that the EPA assumes performance of a portion or all of the Work pursuant to Section XX (Reservation of Rights by the EPA), Paragraph 84. Notwithstanding any other provision of this Section, the EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement and Order on Consent.

XVII. FORCE MAJEURE

74. Respondents agree to perform all requirements of this Order within the time limits established under this Order, unless the performance is delayed by a *force majeure*. For purposes of this Order, *force majeure* is defined as any event arising from causes beyond the control of Respondents or of any entity controlled by Respondents, including but not limited to their contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement and Order on Consent despite Respondents' best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work or increased cost of performance.

75. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement Agreement and Order on Consent, whether or not caused by a *force majeure* event, Respondents shall notify the EPA orally within 48 hours of when Respondents first knew that the event might cause a delay. Within 14 days thereafter, Respondents shall provide to the EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondents' rationale for attributing such delay to a *force majeure* event if they intend to assert such a claim; and a statement as to whether, in the opinion of Respondents, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the above requirements shall preclude Respondents from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

76. If the EPA agrees that the delay or anticipated delay is attributable to a *force majeure* event, the time for performance of the obligations under this Order that are affected by the *force majeure* event will be extended by the EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation. If the EPA does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, the EPA will notify Respondents in writing of its decision. If the EPA agrees that the delay is attributable to a *force majeure* event, the EPA will notify Respondents in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

XVIII. PAYMENT OF RESPONSE COSTS

77. Payment for Past Response Costs. Although payment for past response costs are not sought in this Settlement Agreement the EPA hereby reserves its right to seek past response costs in any subsequent administrative and/or judicial settlement agreement or action.

78. Payments of Future Response Costs.

a. Within 30 days of the Effective Date, Respondents shall pay to EPA \$ ____ in prepayment of Future Response Costs. The total amount paid shall be deposited by EPA in the Cedar Chemical Future Response Costs Special Account, within the EPA Hazardous Substance Superfund. These funds shall be retained and used by EPA to conduct or finance Future Response Actions. Payment shall be made by FedWire Electronic Funds Transfer ("EFT"), to the U.S. Department of Justice account in accordance with current EFT procedures, referencing the civil action number, EPA Site/Spill ID Number ____, and DOJ Case Number ____. Payment shall be in accordance with the instructions provided to the Respondents by the Financial Litigation Unit of the United States Attorney Office for the District of ____ following lodging of the Consent Decree. Any payment received by the Department of Justice after 4:00 p.m. (Eastern Standard Time) will be credited on the next business day. Any amounts received under this Subparagraph will be credited to the Settling Defendants in the final accounting pursuant to Subparagraph 78.e.

b. At the time of payment, Respondents shall send notice that payment has been made to the United States, to the EPA Project Coordinator and to the Servicing Financing Office.

c. Respondents shall pay to EPA all Future Response Costs not inconsistent with the National Contingency Plan. On a periodic basis, the United States will send Respondents a bill requiring payment that includes a (**insert name of standard Regionally-prepared costs summary, which includes the direct and indirect costs incurred by EPA and its contractors, and name of DOJ-prepared cost summary, which reflect costs incurred by DOJ and its contractors, if any**). Respondents shall make all payments required by this Paragraph in the manner required by Subparagraph 78.a., with notice as required by Subparagraph 78.b. The total amount paid will be deposited by EPA in the Cedar Chemical Future Response Costs Special Account within the EPA Hazardous Substance Superfund. These funds will be retained and used by EPA to conduct or finance Future Response Costs. Any amounts remaining in the Cedar Chemical Future Response Costs Special Account, will be disbursed or credited in accordance with Subparagraph 78.e.

d. In the event that EPA's use of the Cedar Chemical Future Response Costs Special Account results in there being \$ ____ or less in the Cedar Chemical Future Response Costs Special Account at any time, Respondents agree, within 14 days or less, to remit to EPA \$ ____ for deposit in the Cedar Chemical Future Response Costs Special Account, in accordance with the payment procedure described in Subparagraph 78.a and 78.b. Any amounts received under this Subparagraph will be credited to Respondents in the final accounting in Subparagraph 78.e.

e. After EPA issues its written Certification of Completion of Work and EPA has performed a final accounting of Future Response Costs, EPA shall offset the final bill for Future Response Costs by the unused amount paid by the Repondents pursuant to Subparagraph 78.a. or 78.d.

79. Respondents may contest payment of any Future Response Costs under Paragraph 78 that were incurred during the time period that any prepaid amounts were received under Subparagraph 78.c. with the exception of amounts due under Paragraphs 78.a. or 78.d. if they determine that the United States (or the State) has made a mathematical error or if they allege that a cost item that is included represents costs that are inconsistent with the NCP or outside the definition of Future Response Costs.

80. Respondents may contest payment of any Future Response Costs under Paragraph 78 if they determine that the EPA has made an accounting error or if they believe the EPA incurred excess costs as a direct result of an EPA action that was inconsistent with the NCP. Such objection shall be made in writing within 30 days of receipt of the bill and must be sent to the EPA Project Coordinator. Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, Respondents shall within the 30 day period pay all uncontested Future Response Costs to the EPA in the manner described in Paragraph 78. Simultaneously, Respondents shall establish an interest-bearing escrow account in a federally-insured bank duly chartered in the State of Texas and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. Respondents shall send to the EPA Project Coordinator a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, Respondents shall initiate the Dispute Resolution procedures in Section XV (Dispute Resolution). If the EPA prevails in the dispute, within 5 days of the resolution of the dispute, Respondents shall pay the sums due (with accrued interest) to the EPA in the manner described in Paragraph 78. If Respondents prevail concerning any aspect of the contested costs, Respondents shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to the EPA in the manner described in Paragraph 78. Respondents shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XV (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding Respondents' obligation to reimburse the EPA for its Future Response Costs.

XIX. COVENANT NOT TO SUE BY EPA

81. In consideration of the actions that will be performed and the payments that will be made by Respondents under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, the EPA covenants not to sue or to take administrative action against Respondents pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work performed under this Order and for recovery of Future Response Costs. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon the complete and satisfactory performance by Respondents of all obligations under this Settlement Agreement, including, but not limited to, payment of Future Response Costs pursuant to Section XVIII. This covenant not to sue extends only to Respondents and does

not extend to any other person.

XX. RESERVATIONS OF RIGHTS BY EPA

82. Except as specifically provided in this Order, nothing herein shall limit the power and authority of the EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent the EPA from seeking legal or equitable relief to enforce the terms of this Order, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law.

83. The covenant not to sue set forth in Section XIX above does not pertain to any matters other than those expressly identified therein. The EPA reserves, and this Settlement Agreement is without prejudice to, all rights against Respondents with respect to all other matters, including, but not limited to:

- a. claims based on a failure by Respondents to meet a requirement of this Settlement Agreement;
- b. liability for costs not included within the definition of Future Response Costs;
- c. liability for performance of response action other than the Work;
- d. criminal liability;
- e. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- f. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and
- g. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site.

84. Work Takeover. In the event the EPA determines that Respondents have ceased implementation of any portion of the Work, are seriously or repeatedly deficient or late in their performance of the Work, or are implementing the Work in a manner which may cause an endangerment to human health or the environment, the EPA may assume the performance of all or any portion of the Work as the EPA determines necessary. Respondents may invoke the procedures set forth in Section XV (Dispute Resolution) to dispute the EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the EPA in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Respondents shall pay pursuant to Section XVIII (Payment of Response Costs).

Notwithstanding any other provision of this Order, the EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

XXI. COVENANT NOT TO SUE BY RESPONDENTS

85. Respondents covenant not to sue and agree not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Future Response Costs, or this Settlement Agreement and Order on Consent, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of the Work or arising out of the response actions for which the Future Response Costs have or will be incurred, including any claim under the United States Constitution, the Texas Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Work or payment of Future Response Costs.

86. These covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to the reservations set forth in Paragraphs 83 (b), (c), and (e) - (g), but only to the extent that Respondents' claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

87. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

XXII. OTHER CLAIMS

88. By issuance of this Settlement Agreement and Order on Consent, the United States and the EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents.

89. Except as expressly provided in Section XIX (Covenant Not to Sue by EPA), nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Settlement Agreement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

90. No action or decision by the EPA pursuant to this Settlement Agreement and Order on Consent shall give rise to any right to judicial review except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXIII. CONTRIBUTION

91. Contribution

a. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(2) of CERCLA, 42 U.S.C. 9613(f)(2) that Respondents are entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for "matters addressed" in this Settlement Agreement. The "matters addressed" in this Settlement Agreement are the Work, and Future Response Costs.

b. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. 9613(f)(3)(B) pursuant to which Respondents have, as of the Effective Date, resolved their liability to the United States for the Work, Past Response Costs and Future Response Costs.

c. Except as provided in Section XXI Paragraph(s)___ of this Settlement Agreement (Non-Exempt DeMicromis, [DeMinimis and MSW Waivers] nothing in this Settlement Agreement precludes the United States or Respondents from asserting any claims, causes of action, or demands for indemnification, contribution, or cost recovery against any persons not parties to this Settlement Agreement. Nothing herein diminishes the right of the United States, pursuant to Sections 113(f)(2) and (3) of CERCLA, 42 U.S.C. 9613(f)(2)(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

XXIV. INDEMNIFICATION

92. Respondents shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Settlement Agreement and Order on Consent. In addition, Respondents agree to pay the United States all costs incurred by the United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, subcontractors and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Settlement Agreement and Order on Consent. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondents in carrying

out activities pursuant to this Order. Neither Respondents nor any such contractor shall be considered an agent of the United States.

93. The United States shall give Respondents notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondents prior to settling such claim.

94. Respondents waive all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site. In addition, Respondents shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site.

XXV. INSURANCE

95. At least 30 days prior to commencing any On-Site Work under this Settlement Agreement and Order on Consent, Respondents shall secure, and shall maintain for the duration of this Order, comprehensive general liability insurance and automobile insurance with limits of \$5,000,000 dollars, combined single limit, naming the EPA as an additional insured. Within the same period, Respondents shall provide the EPA with certificates of such insurance and a copy of each insurance policy. Respondents shall submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Settlement Agreement and Order on Consent, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondents in furtherance of this Order. If Respondents demonstrate by evidence satisfactory to the EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondents need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVI. FINANCIAL ASSURANCE

96. Within 30 days of the Effective Date, Respondents shall establish and maintain financial security for the benefit of the EPA in the amount of \$ **[insert estimated cost of Work]** in one or more of the following forms, in order to secure the full and final completion of Work by Respondents:

a. a surety bond unconditionally guaranteeing payment and/or performance of the Work;

b. one or more irrevocable letters of credit, payable to or at the direction of EPA, issued by financial institution(s) acceptable in all respects to the EPA equaling the total estimated cost of the Work;

c. a trust fund administered by a trustee acceptable in all respects to the EPA;

d. a policy of insurance issued by an insurance carrier acceptable in all respects to EPA, which ensures the payment and/or performance of the Work;

e. a corporate guarantee to perform the Work provided by one or more parent corporations or subsidiaries of Respondents, or by one or more unrelated corporations that have a substantial business relationship with at least one of Respondents; including a demonstration that any such company satisfies the financial test requirements of 40 C.F.R. Part 264.143(f); and/or

f. a corporate guarantee to perform the Work by one or more of Respondents, including a demonstration that any such Respondent satisfies the requirements of 40 C.F.R. Part 264.143(f).

97. Any and all financial assurance instruments provided pursuant to this Section shall be in form and substance satisfactory to the EPA, determined in the EPA's sole discretion. In the event that the EPA determines at any time that the financial assurances provided pursuant to this Section (including, without limitation, the instrument(s) evidencing such assurances) are inadequate, Respondents shall, within 30 days of receipt of notice of the EPA's determination, obtain and present to the EPA for approval one of the other forms of financial assurance listed in Paragraph 96, above. In addition, if at any time the EPA notifies Respondents that the anticipated cost of completing the Work has increased, then, within 30 days of such notification, Respondents shall obtain and present to the EPA for approval a revised form of financial assurance (otherwise acceptable under this Section) that reflects such cost increase. Respondents' inability to demonstrate financial ability to complete the Work shall in no way excuse performance of any activities required under this Settlement Agreement and Order on Consent.

98. If Respondents seek to ensure completion of the Work through a guarantee pursuant to Subparagraph 96.e. or 96.f. of this Settlement Agreement and Order on Consent, Respondents shall (i) demonstrate to EPA's satisfaction that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f); and (ii) resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the Effective Date, to the EPA. For the purposes of this Order, wherever 40 C.F.R. Part 264.143(f) references "sum of current closure and post-closure costs estimates and the current plugging and abandonment costs estimates," the current cost estimate of \$___ for the Work at the Site shall be used in relevant financial test calculations.

99. If, after the Effective Date, Respondents can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 96 of this Section, Respondents may, on any anniversary date of the Effective Date, or at any other time agreed to

by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. Respondents shall submit a proposal for such reduction to the EPA, in accordance with the requirements of this Section, and may reduce the amount of the security after receiving written approval from the EPA. In the event of a dispute, Respondents may seek dispute resolution pursuant to Section XV (Dispute Resolution). Respondents may reduce the amount of security in accordance with the EPA's written decision resolving the dispute.

100. Respondents may change the form of financial assurance provided under this Section at any time, upon notice to and prior written approval by the EPA, provided that the EPA determines that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondents may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

XXVII. INTEGRATION/APPENDICES

101. This Settlement Agreement and Order on Consent and its appendices and any deliverables, technical memoranda, specifications, schedules, documents, plans, reports (other than progress reports), etc. that will be developed pursuant to this Settlement Agreement and Order on Consent and become incorporated into and enforceable under this Settlement Agreement and Order on Consent constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement Agreement and Order on Consent. The parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Settlement Agreement and Order on Consent. The following appendices are attached to and incorporated into this Order:

"Appendix A" is the list of Respondents.

"Appendix B is the SOW map of the Site.

"Appendix C" is the map of the Site.

XXVIII. ADMINISTRATIVE RECORD

102. The EPA will determine the contents of the administrative record file for selection of the remedial action. Respondents shall submit to the EPA documents developed during the course of the RI/FS upon which selection of the response action may be based. Upon request of the EPA, Respondents shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. Upon request of the EPA, Respondents shall additionally submit any previous studies conducted under state, local or other federal authorities relating to selection of the response action, and all communications between Respondents and state, local or other federal authorities concerning selection of the response action. At the EPA's discretion, Respondents shall establish a community information repository at or near the Site, to house one copy of the

administrative record.

XXIX. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

103. This Settlement Agreement shall be effective on the day this Settlement Agreement and Order on Consent is signed by the Superfund Division Director.

104. This Settlement Agreement and Order on Consent may be amended by mutual agreement of the EPA and Respondents. Amendments shall be in writing and shall be effective when signed by the EPA. EPA Project Coordinators do not have the authority to sign amendments to the Order.

105. No informal advice, guidance, suggestion, or comment by the EPA Project Coordinator or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondents shall relieve Respondents of their obligation to obtain any formal approval required by this Settlement Agreement and Order on Consent, or to comply with all requirements of this Order, unless it is formally modified.

XXX. NOTICE OF COMPLETION OF WORK

106. When the EPA determines that all Work has been fully performed in accordance with this Settlement Agreement and Order on Consent, with the exception of any continuing obligations required by this Settlement Agreement and Order on Consent, including but not limited to payment of Future Response Costs or record retention, the EPA will provide written notice to Respondents. If the EPA determines that any such Work has not been completed in accordance with this Settlement Agreement and Order on Consent, the EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents modify the RI/FS Work Plan if appropriate in order to correct such deficiencies, in accordance with Paragraph 36 (Modification of the Work Plan). Failure by Respondents to implement the approved modified RI/FS Work Plan shall be a violation of this Settlement Agreement and Order on Consent.

Agreed this ____ day of _____, 2014.

For Respondent _____

By: _____

Title: _____

It is so ORDERED AND AGREED this _____ day of _____, 2014.

BY: _____ DATE: _____
Director, Superfund Division
Region 6
U.S. Environmental Protection Agency
EFFECTIVE DATE: _____

APPENDIX A
Parties Receiving 12/31/2013 Mailing

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ENCLOSURE 3

**APPENDIX B: STATEMENT OF WORK
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
CEDAR CHEMICAL CORPORATION SUPERFUND SITE
WEST HELENA, ARKANSAS**

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APPENDIX B
STATEMENT OF WORK
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
CEDAR CHEMICAL CORPORATION SUPERFUND SITE
WEST HELENA, PHILLIPS COUNTY, ARKANSAS

1. INTRODUCTION

1. This Statement of Work (SOW) provides an overview of work that will be carried out by respondents as they implement a Remedial Investigation and Feasibility Study (RI/FS) for the Cedar Chemical Corporation (CCC) Superfund Site (the Site). This RI/FS SOW is attached to the Administrative Order on Consent (AOC) for Remedial Investigation/Feasibility Study for the Site and is a supporting document for the AOC. Technical work described in the SOW is intended to provide more information to Respondents for purposes of implementing the AOC and is not intended to change the meaning of any AOC language. This SOW is also consistent with both the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and the National Contingency Plan (NCP). Any discrepancies between the AOC and SOW are unintended, and whenever necessary, the AOC will control in any interpretive disputes.

2. The RI/FS is expected to be an iterative process. This SOW outlines a decision process that will be used to focus sampling programs to gather data that are needed for the decision process. The U.S. Environmental Protection Agency (EPA) understands there may be concern on the part of Respondents that such an iterative process could lead to substantial increases in the size, cost, and scope of the RI/FS. However, EPA has an obligation under CERCLA to protect human health and the environment wherever hazardous substances have been discharged or migrated in the environment. To balance these competing interests, EPA's Office of Solid Waste and Emergency Response is promoting more effective strategies (i.e., Triad Approach) for characterizing, monitoring, and cleaning up hazardous waste sites. The Triad Approach integrates systematic planning, dynamic work plans, and on-site analytical tools used to support decisions about hazardous waste sites. Additional information regarding the Triad Approach is attached and can be found at the following website: http://www.clu-in.org/conf/tio/triad_012303.

3. The purpose of the RI/FS is to investigate the nature and extent of contamination for the Site, to assess the potential risk to human health and the environment, to develop and evaluate potential remedial action alternatives, and to recommend a preferred alternative. The RI and FS are interactive and will be conducted concurrently, to the extent practicable in a manner that allows information and data collected during the RI to influence the development of remedial alternatives during the FS, which in turn affect additional information and data needs and the scope of any necessary treatability studies and risk assessments.

4. Respondents will conduct the RI/FS and will produce draft RI and FS reports that are in accordance with the AOC. The RI/FS will be consistent with the Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (U.S. EPA, Office of Emergency and Remedial Response, October 1988) Data Quality Objectives (DQOs) planning process (EPA QA /G-4, August 2000), and other applicable guidance that EPA uses in conducting an RI/FS (a list of the primary guidance is attached), including potentially applicable guidance released by EPA after the effective date of this SOW. EPA is aware that not all guidance used for the RI/FS purposes may be applicable to the Site. EPA Remedial Project Managers (RPMs) for sites have the authority under the NCP to determine when application of any guidance would be inappropriate. Respondents may raise such guidance issues they

consider appropriate during the implementation of the AOC. EPA's decisions regarding guidance applicability will be incorporated into document approval correspondence or in other written correspondence as appropriate.

5. The RI/FS Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA describes the suggested report format and content for the draft RI and FS reports. Respondents will furnish all necessary personnel, materials, and services needed for, or incidental to performing the RI/FS, except as otherwise specified in the AOC.

6. At the completion of the RI/FS, EPA will be responsible for the selection of a Site remedy and will document this selection in one or more Records of Decision (RODs). The response action alternatives selected by EPA will meet the cleanup standards specified in Section 121 of CERCLA, 42 U.S.C. § 9621; the selected remedy will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements (ARARs), will be cost-effective, will utilize permanent solutions and alternative treatment technologies or resource recovery technologies, to the maximum extent practicable, and will address the statutory preference for treatment as a principal element, as appropriate under the NCP. The final RI/FS report, as approved by EPA, will, with the administrative record, form the basis for the selection of the Site's remedy and will provide the information necessary to support development of one or more RODs.

As specified in Section 104(a)(I) of CERCLA, 42 U.S.C. § 9604(a)(I), EPA will provide oversight of Respondents' activities throughout implementation of the AOC. Respondents will support EPA's initiation and conduct of activities related to implementation of oversight activities.

Purpose of the Statement of Work

7. This SOW sets forth certain requirements of the AOC for implementation of the Work pertaining to the RI/FS for the Site. The Respondents shall undertake the RI/FS according to the AOC, including, but not limited to, this SOW.

Objectives of the Remedial Investigation/Feasibility Study

8. The objectives of the RI/FS are to investigate the nature and extent of contamination at or from the Site and to develop and evaluate potential remedial alternatives, in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, 42 U.S.C. § 9601, et seq.); as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA); and in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (National Contingency Plan (NCP)). Specifically, these objectives are to determine the presence or absence, types, and quantities (concentrations) of contaminants; mechanism of contaminant release to pathway(s); direction of pathway(s) transport; boundaries of source(s) and pathway(s); and environmental/public health receptors.

Scope of Remedial Investigation and Feasibility Study

9. The general scope of the RI/FS shall be to address all contamination at the Site resulting from the hazardous substances present at the Site.

Description of the Site

10. The site is located in Phillips County, Arkansas, south of West Helena. The site consists of 48 acres along State Highway 242, 1 mile southwest of the intersection of U.S. Highway 49 and Highway 242. The site is in the Helena-West Helena Industrial Park, and includes six former production units,

support facilities and an office on the north side of Industrial Park Road. A biological treatment system is located south of Industrial Park Road, Arkansas Highway 242 to the northwest, a Union Pacific railway to the northeast, and other industrial park properties to the southeast and southwest bound the site.

The Facility was initially operated by Helena Chemical in 1970. The Facility was purchased by Eagle River Chemical and was operated for approximately 18 months by Ansul under the name of Eagle River Chemical. During this time period, dinoseb was produced on the site. From 1971 to 2002, the facility manufactured or processed a variety of agricultural and organic chemicals under various owners and operators. The last owner of record was Cedar Chemical Corporation. On March 8, 2002, Cedar Chemical Corporation filed for bankruptcy. Manufacturing and plant operations were shut down shortly thereafter. The Arkansas Department of Environmental Quality (ADEQ) assumed control of the facility on October 12, 2002, and currently acts as the caretaker of the facility.

11. The Arkansas Department of Environmental Quality (ADEQ) has pursued Potentially Responsible Parties (PRPs) to conduct the necessary actions and recover Remedial Action Trust Fund expenditures associated with the site investigation and cleanup. ADEQ entered into a Consent Administrative Order (CAO) LIS-07-027 on March 22, 2007 with Ansul Incorporated (formally known as Wormald US, Inc.), Helena Chemical Company and Exxon Mobil Chemical (a division of Exxon Mobil Corporation). The Respondents to the CAO have developed a Feasibility Study Report (FS) proposing remedies for areas of concern. The FS was used to support the development of a Remedial Action Decision Document (RADD). The RADD was finalized and signed on June 3, 2010. All of the aforementioned investigations, studies and reports may be used by the Respondents to supplement the work required to complete the RI/FS required in this SOW.

II. PERFORMANCE STANDARDS

12. The Performance Standards for this RI/FS shall include substantive requirements, criteria, or limitations which are specified in the AOC, including, but not limited to, this SOW. Submissions approved by the EPA are an enforceable part of the AOC; consequently, cleanup goals and other substantive requirement, criteria, or limitations which are specified in EPA-approved submissions are Performance Standards. The EPA will use the Performance Standards to determine if the work, including, but not limited to, the RI/FS, has been completed. The Respondents shall ensure that the RI/FS is consistent with the EPA's "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (EPA 1988b, hereinafter "the RI/FS guidance") and other applicable sections of EPA guidance cited herein. If the EPA approves a schedule for any work pursuant to the AOC, the schedule shall supersede any timing requirements established in the RI/FS. Likewise, if the EPA, pursuant to the AOC, requires the Respondents to perform certain work at a point in time which is not consistent with the RI/FS guidance or other guidance, the Respondents shall perform the work as specified by the AOC, for example, on page B-2, the RI/FS guidance says that the Field Investigation is complete when the contractors or subcontractors are demobilized from the field; however, if the EPA, pursuant to the AOC, requires the Respondents to perform additional field investigation activities once the contractors or subcontractors have demobilized, the Respondents shall remobilize the contractors or subcontractors and perform the additional work. Except where it is inconsistent with this AOC, as determined by the EPA, the RI/FS guidance and other applicable sections of EPA guidance cited herein are Performance Standards.

III. ROLE OF THE EPA

13. The EPA's approval of deliverables, including, but not limited to, submissions, allows the Respondents to proceed to the next steps in implementing the Work of the RI/FS. The EPA's approval does not imply any warranty of performance, nor does it imply that the RI/FS, when completed, will function properly and be ultimately accepted by the EPA. The EPA retains the right to disapprove submissions during the RI/FS. The EPA may disapprove deliverables including, but not limited to, submissions concerning such matters as the contractor selection, plans and specifications, work plans, processes, sampling, analysis and any other deliverables within the context of the AOC. If a submission is unacceptable to the EPA, the EPA may require the Respondents to make modifications in the submission, and the EPA may require the Respondents to do additional work to support those modifications. That is, if a submission reports certain work that is unacceptable to the EPA, the EPA may require the Respondents to modify the submission text and to perform the work until it is acceptable to the EPA. The Respondents shall modify the submission and perform the work as required by the EPA.

IV. RESPONDENTS' KEY PERSONNEL

Respondent's Project Coordinator

14. When necessary, as determined by the EPA, the EPA will meet with the Respondents and discuss the performance and capabilities of the Respondent's Project Coordinator. When the Project Coordinator's performance is not satisfactory, as determined by the EPA, the Respondents shall take action, as requested by the EPA, to correct the deficiency. If, at any time, the EPA determines that the Project Coordinator is unacceptable for any reason, the Respondents, at the EPA's request, shall bar the Project Coordinator from any work under the AOC and give notice of the Respondent's selected new Project Coordinator to the EPA.

Respondent's Quality Assurance Manager

15. Oversight, including, but not limited to confirmation sampling, by the Respondent's Quality Assurance Manager (QA Manager) will be used to provide confirmation and assurance to the Respondents and to the EPA that the Respondents are performing the RI/FS in a manner that will meet the Performance Standards. The QA Manager shall ensure that the work performed by the Respondents meets the standards in the Quality Assurance Project Plan described in this SOW. The QA Manager shall selectively test and inspect the work performed by the Respondents.

V. TASKS TO BE PERFORMED AND DELIVERABLES

Conduct of the Remedial Investigation and Feasibility Study

16. This SOW specifies the Work to be performed and the deliverables which shall be produced by the Respondents. The Respondents shall conduct the RI/FS in accordance with this SOW and all applicable guidance that the EPA uses in conducting RI/FS projects under CERCLA, as amended by

SARA, as well as any additional requirements in the AOC. The Respondents shall furnish all necessary personnel, materials, and services necessary for, and incidental to, performance of the RI/FS, except as otherwise specified in the AOC or SOW.

Submittal of Deliverables

17. All draft and final deliverables specified in this SOW shall be provided in hard copy, by the Respondents, to the EPA (one copy), EPA's RI/FS Oversight Contractor (one copy - as deemed necessary by the site RPM), the Texas Commission on Environmental Quality (TCEQ, two copies), and the Federal/State Natural Resource Trustees¹ (one copy each). Draft and final deliverables shall be provided in electronic format (specifically, Microsoft® Word and Adobe® PDF format (only final deliverables)) to the EPA, EPA's RI/FS Oversight Contractor (if necessary), TCEQ, and the Federal/State Natural Resource Trustees. Final deliverables shall be provided in hard copy and electronic format (specifically, Adobe® PDF format) to the Information Repository established for the Site. The EPA shall be responsible for placing the required deliverables into the Information Repository. The Respondents shall provide the EPA with any other documentation for the Information Repository as requested by the EPA's Remedial Project Manager. Additionally, all deliverables specified in this SOW shall be submitted, by the Respondents, according to the requirements of this SOW and Appendix A of this SOW (Schedule of Deliverables/Meetings). In addition to the Deliverables identified in Appendix A, Respondents shall provide to EPA an updated database with the bi-monthly status report for reporting periods in which validated data have been uploaded to the database.

Development of Deliverables

18. All deliverables shall be developed in accordance with the guidance documents listed in Appendix B² (Guidance Documents) to this SOW. Subject to the provisions regarding EPA Approval of Plans and other Submissions in Section X of the AOC, if the EPA disapproves of or requires revisions to any of these deliverables, in whole or in part, the Respondents shall submit to the EPA, within thirty (30) days after completing discussion of EPA's directions or comments on the deliverable (and in no event later than sixty (60) calendar days after receiving EPA's comments or directions on the deliverable), revised plans which are responsive to such directions or comments.

Tasks to be Performed by the Respondents

19. The Respondents shall perform each of the following Tasks (Tasks 1-10) as specified in this SOW. These Tasks shall be developed in accordance with the guidance documents listed in Appendix B² (Guidance Documents) to this SOW and any additional guidance applicable to the RI/FS process.

Task 1: Scoping

20. The purpose of Task 1 (Project Planning) is to determine how the RI/FS will be managed and controlled. The following activities shall be performed by the Respondents as part of Task 1.

¹The Federal/State Natural Resource Trustees for the Site have been identified as the U.S. Department of Interior, U.S. Fish and Wildlife Service, United States Geological Survey, Arkansas Department of Environmental Quality, Arkansas Natural Resources Commission, and the Arkansas Fish and Game Commission.

²Appendix B of this SOW does not include all guidance documents that are applicable to the RI/FS for the Site. The Respondents should consult with EPA's Remedial Project Manager for additional guidance and to ensure that the guidance documents have not been superseded by more recent guidance.

- a) The Respondents shall contact the EPA's Remedial Project Manager (RPM) within fourteen (14) calendar days after the effective date of the AOC to schedule a scoping phase meeting.
- b) The Respondents shall compile, review, and evaluate all existing Site data. The Respondents shall refer to Table 2-1 (Data Collection Information Sources) of the RI/FS Guidance for a list of data collection information sources. The Respondents shall exhaust, as necessary, all of those sources in compiling the data.

The Respondents shall compile all existing information describing hazardous substance sources, migration pathways, and potential human and environmental receptors. The Respondents shall compile all existing data relating to the varieties and quantities of hazardous substances released at or from the Site. The Respondents shall compile and review all available data relating to past disposal practices of any kind on and near the Site. The Respondents shall compile existing data concerning the physical and chemical characteristics of the hazardous substances, and their distribution among the environmental media (ground water, soil, surface water, sediments, and air) on and near the Site.

The Respondents shall compile existing data which resulted from any previous sampling events that may have been conducted on and near the Site. The Respondents shall gather existing data which describes previous responses that have been conducted on and near the Site by local, state, federal, or private parties.

The Respondents shall gather existing information regarding geology, hydrogeology, hydrology (including floodplains), meteorology (including previous hurricane activity), and ecology of the Site. The Respondents shall gather existing data regarding background ground water, background soil, background surface water, background sediments, and background air characteristics (if necessary). The Respondents shall gather existing data regarding demographics, land use, property boundaries, and zoning. The Respondents shall gather existing data which identifies and locates residential, municipal, or industrial water wells on and near the Site. The Respondents shall gather existing data which identifies surface water uses for areas surrounding the Site including, but not limited to, downstream of the Site. The Respondents shall gather existing information describing the flora and fauna of the Site. The Respondents shall gather existing data regarding state and federally listed threatened, endangered, or rare species; sensitive environmental areas; or critical habitats on and near the Site. The Respondents shall compile any existing ecological assessment data. This may include, but is not limited to, results of acute or chronic toxicity tests using Site surface water and/or sediment, analysis of invertebrate and/or fish tissue concentrations, analysis of wildlife tissue and egg concentrations, and any wildlife or invertebrate census or community survey information.

The Respondents shall use data compiled and reviewed to describe additional data needed to characterize the Site, to better define potential ARARs, and to develop a range of preliminarily identified remedial alternatives. All previously collected data shall be reviewed to determine compliance with the data quality requirements for the project and that it is suitable for use in the

RI/FS.

Task 2: Remedial Investigation and Feasibility Study Work Plan

21. The Respondents shall prepare and submit a Draft RI/FS Work Plan (WP) within sixty (60) calendar days after the Scoping Phase Meeting. The Respondents shall use information from appropriate EPA guidance and technical direction provided by the EPA's RPM as the basis for preparing the Draft RI/FS WP. The RI/FS shall be conducted in a manner that minimizes environmental impacts in accordance with the EPA's Principles for Greener Cleanups (EPA 2009a.) and EPA Region 6 Clean and Green Policy (EPA 2009b.) to the extent consistent with the National Contingency Plan (NCP), 40 CFR Part 300. The Best Management Practices available at <http://www.cluin.org/greenremediation/> shall be considered.
22. The Respondents shall develop the Draft RI/FS WP in conjunction with the Draft RI/FS Sampling and Analysis Plan (Task 3 (RI/FS Sampling and Analysis Plan)) and the Draft RI/FS Site Health and Safety Plan (Task 4 (RI/FS Site Health and Safety Plan)), although each plan may be submitted to the EPA under separate cover. The Draft RI/FS WP shall include a comprehensive description of the Work to be performed, the methodologies to be utilized, and a corresponding schedule for completion. In addition, the Draft RI/FS WP shall include the rationale for performing the required activities.
23. Specifically, the Draft RI/FS WP shall present a statement of the problem(s) and potential problem(s) posed by the Site and the objectives of the RI/FS. Furthermore, the Draft RI/FS WP shall include a Site background summary setting forth the Site description which includes the geographic location of the Site, and to the extent possible, a description of the Site's physiography, hydrology, geology, and demographics; the Site's ecological, cultural and natural resource features; a synopsis of the Site history and a description of previous responses that have been conducted at the Site by local, state, federal, or private parties; and a summary of the existing data in terms of physical and chemical characteristics of the contaminants identified, and their distribution among the environmental media at the Site. In addition, the Draft RI/FS WP shall include a description of the Site management strategy developed during scoping, and a preliminary identification of remedial alternatives and data needs for evaluation of remedial alternatives. The Draft RI/FS WP shall reflect coordination with treatability study requirements (Task 8 (Treatability Studies)) and will show a process for and manner of identifying Federal and State chemical-, location-, and action-specific ARARs.
24. Finally, the major part of the Draft RI/FS WP shall be a detailed description of the Tasks (Tasks 1-10) to be performed, information needed for each Task and for the Baseline Human Health and Ecological Risk Assessments, information to be produced during and at the conclusion of each Task, and a description of the Work products and deliverables that the Respondents will submit to the EPA. This includes the deliverables set forth in the remainder of this SOW; a schedule for each of the required activities which is consistent with the EPA's guidance documents; monthly reports to the EPA as specified in Appendix A (Schedule of Deliverables/Meetings); and meetings and presentations to the EPA at the conclusion of each major phase of the RI/FS. The Respondents shall refer to the EPA's guidance document entitled, "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) which describes the RI/FS WP format and the required content.

25. The Respondents are responsible for fulfilling additional data and analysis needs identified by the EPA consistent with the general scope and objectives of this RI/FS. Because of the nature of the Site and the iterative nature of the RI/FS, additional data requirements and analyses may be identified throughout the process. If any significant additional Work is required to meet the objectives stated in the RI/FS WP, based upon new information obtained during the RI/FS, the Respondents shall submit a Draft RI/FS WP Amendment to the EPA for review and approval prior to any additional Work being conducted in accordance with the AOC and SOW. The EPA may, at its discretion, give verbal approval for Work to be conducted prior to providing written approval of the Draft RI/FS WP Amendment.

26. Subject to the provisions in Section X of the AOC, the Respondents shall prepare and submit to the EPA a final RI/FS Work Plan within thirty (30) calendar days after completing discussion of EPA's comments on the draft RI/FS Work Plan (and in no event later than sixty (60) calendar days after receipt of the EPA's comments on the draft RI/FS Work Plan).

Task 3: RI/FS Sampling and Analysis Plan

27. The Respondents shall prepare and submit to the EPA a Draft RI/FS Sampling and Analysis Plan (SAP) within sixty (60) calendar days after the Scoping Phase Meeting. This Draft RI/FS SAP shall provide a mechanism for planning field activities and shall consist of an RI/FS Field Sampling Plan and Quality Assurance Project Plan as follows:

a) The RI/FS Field Sampling Plan (FSP) shall define in detail the sampling and data gathering methods that will be used for the project to define the nature and extent of contamination and risk assessment-related studies (Task 7, Risk Assessments). It shall include, but not be limited to, sampling objectives, sample location and frequency, sampling equipment and procedures, and sample handling and analysis. The RI/FS FSP shall contain a completed Sample Design Collection Worksheet and a Method Selection Worksheet. These worksheet templates can be found in the EPA's guidance document entitled, "Guidance for Data Useability in Risk Assessment" (EPA 1992a). In addition, the FSP shall include a comprehensive description of the Site including geology; location; and physiographic, hydrological, ecological, cultural, and natural resource features; a brief synopsis of the history of the Site; summary of existing data; and information on fate and transport and effects of chemicals. As such, the Respondents shall provide a strategy that includes both biased sampling and random sampling. The risk assessments require that the sampling be conducted to demonstrate that data is statistically representative of the Site. The Respondents shall also confirm that the detection limits for all laboratories are in accordance within the goals stated in the EPA's risk assessment guidance.

The FSP shall consider the use of all existing data and shall justify the need for additional data whenever existing data will meet the same objective. Existing data, if used for the RI/FS, shall meet the data quality and usability requirements based on the data quality objectives for the Site. The FSP shall be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required. The Respondents shall refer to EPA's guidance document entitled, "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) which describes the RI/FS FSP format and the required content. The Respondents shall document any required changes to the Final FSP, during

the implementation of the RI/FS, in a memorandum to the EPA's Remedial Project Manager and after discussions with the EPA.

b) The RI/FS Quality Assurance Project Plan (QAPP) shall describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that will be used to achieve the desired Data Quality Objectives (DQOs). The DQOs shall at a minimum reflect use of analytical methods for identifying contamination and remediating contamination consistent with the levels for remedial action objectives identified in the NCP. In addition, the RI/FS QAPP shall address sampling procedures; sample custody; analytical procedures; data reduction, validation, and reporting; and personnel qualifications. The Respondents shall refer to the EPA's guidance documents entitled; "EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5 " (EPA 2001, EPA/240/B-01/003, March 2001, or the latest revision), and "Guidance for Quality Assurance Project Plans, EPA QA/G-5 " (EPA 2002, EPA/240/R-02/009, December 2002, or the latest revision) which describe the RI/FS QAPP format and the required content.

Subject to the provisions in Section X of the AOC, the Respondents shall prepare and submit to the EPA a final RI/FS SAP within thirty (30) calendar days after completing discussion of EPA's comments on the draft RI/FS SAP (and in no event later than sixty (60) calendar days after receipt of the EPA's comments on the draft RI/FS SAP).

28. The Respondents shall demonstrate in advance, to the EPA's satisfaction, that each analytical laboratory it may use is qualified to conduct the proposed Work. This includes use of methods and analytical protocols for the chemicals of concern in the media of interest within detection and quantification limits consistent with both QA/QC procedures and the DQOs approved in the RI/FS QAPP for the Site by the EPA. The laboratory must have, and follow, an approved QA program. If a laboratory not in the Contract Laboratory Program (CLP) is selected, methods consistent with CLP methods shall be used where appropriate. Any methods not consistent with CLP methods shall be approved by the EPA prior to their use. Furthermore, if a laboratory not in the CLP program is selected, a laboratory QA program must be submitted to the EPA for review and approval. The EPA may require the Respondents to submit detailed information to demonstrate that the laboratory is qualified to conduct the Work, including information on personnel and qualifications, equipment, and material specifications.

Task 4: RI/FS Site Health and Safety Plan

29. The Respondents shall prepare and submit to the EPA an RI/FS Site Health and Safety Plan (HSP) within sixty (60) calendar days after the Scoping Phase Meeting. This RI/FS HSP shall be prepared in accordance with the Occupational Safety and Health Administration regulations and protocols and must be in place prior to any onsite activities. The EPA will review, but not approve, the RI/FS Site HSP to ensure that all necessary elements are included and that the plan provides for the protection of human health and the environment. The EPA may, at its discretion, disapprove the Site HSP and provide comments concerning those aspects of the plan which pertain to the protection of the environment and the health of persons not employed by, or under contract to, the Respondents. In addition, EPA may require a revised RI/FS Site HSP to be submitted for review in the event that the RI/FS WP is changed or amended (e.g., such as in the performance of pilot studies which may result in the airborne emissions of hazardous

substances from the Site). The Respondents shall refer to the EPA's guidance document entitled, "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b) which describes the RI/FS Site HSP format and the required content.

Task 5: Community Involvement Plan

30. The development and implementation of community relations activities, including community interviews and developing a community involvement plan, are the responsibilities of EPA. Respondents must assist, as required by EPA, by providing information regarding the Site's history, participating in public meetings upon notice from EPA, or by preparing fact sheets for distribution to the general public. As appropriate and feasible, EPA will provide Respondents with the opportunity to review and provide comments on a draft community involvement plan, including the stakeholder and community mailing lists, and fact sheets prior to distribution. In addition, EPA may require that Respondents establish a community information repository, at or near the Site, to house one copy of the administrative record. The extent of Respondents' involvement in community relations activities is left to the discretion of EPA. Respondents' community relations responsibilities, if any, are specified in the community involvement plan. All community relations activities will be subject to oversight by EPA.

Task 6: Site Characterization

31. As part of the Remedial Investigation (RI), the Respondents shall perform the activities described in this Task, including the preparation of an RI Report (Task 9, Remedial Investigation Report). The overall objective of the Site's characterization will be to describe areas of the Site that may pose a threat to human health or the environment. This will be accomplished by first determining the Site's physiography, geology, and hydrology. Surface and subsurface pathways of migration shall be defined by the Respondents. The Respondents shall identify the sources of contamination and define the nature, extent, and volume of the sources of contamination, including their physical and chemical constituents. The Respondents shall also investigate the extent of migration of this contamination as well as its volume and any changes in its physical or chemical characteristics, to provide for a comprehensive understanding of the nature and extent of contamination at the Site. Using this information, contaminant fate and transport will then be determined and projected.

32. The Respondents shall implement the Final RI/FS WP, and SAP during this phase of the RI/FS. Field data will be collected and analyzed to provide the information required to accomplish the objectives of the study. The Respondents shall notify the EPA at least fifteen (15) calendar days in advance of the field work regarding the planned dates for field activities, including, but not limited to, ecological field surveys, field layout of the sampling grid, installation of wells, initiating sampling (air, surface water, ground water, sediments, soils, and biota), installation and calibration of equipment, aquifer tests, and initiation of analysis and other field investigation activities (including geophysical surveys and borehole geophysics). The Respondents shall not proceed with field activities without prior EPA approval. The Respondents shall demonstrate that the laboratory and type of laboratory analyses that will be utilized during the Site's characterization meets the specific QA/QC requirements and the DQOs established for the investigation of the Site as specified in the Final RI/FS SAP. Activities are often iterative, and to satisfy the objectives of the RI/FS it may be necessary for the Respondents to supplement the Work specified in the Final RI/FS WP.

33. The Respondents shall perform the following activities as part of Task 6 (Site Characterization):

- a) Field Investigation - The field investigation shall include the gathering of data to define

the Site's physical and biological characteristics, sources of contamination, and the nature and extent of contamination at or from the Site. These activities shall be performed by the Respondents in accordance with the Final RI/FS WP and SAP. At a minimum, this field investigation shall address the following:

i) Implementation and Documentation of Field Support Activities - The Respondents shall initiate field support activities following the Final RI/FS WP and SAP approved by the EPA. Field support activities may include obtaining access to the Site; scheduling; and procurement of equipment, office space, laboratory services, and/or contractors. The Respondents shall notify the EPA at least fifteen (15) calendar days prior to initiating field support activities so that the EPA may adequately schedule oversight activities. The Respondents shall also notify the EPA in writing upon completion of field support activities.

ii) Investigation and Definition of Site Physical and Biological Characteristics - The Respondents shall collect data on the physical and biological characteristics of the Site and its surrounding areas including the physiography, geology, hydrology, and specific physical characteristics identified in the Final RI/FS WP. This information shall be ascertained through a combination of physical measurements, observations, and sampling efforts, and will be utilized to define potential transport pathways and human and ecological receptor populations (including risks to endangered or threatened species). In defining the Site's physical characteristics, the Respondents shall also obtain sufficient engineering data for the projection of contaminant fate and transport, and development and screening of remedial action alternatives, including information to assess treatment technologies.

iii) Definition of Sources of Contamination - The Respondents shall locate each source of contamination. For each location, the areal extent and depth of contamination will be determined by sampling at incremental depths on a sampling grid. The physical characteristics and chemical constituents and their concentrations will be determined for all known and discovered sources of contamination. The Respondents shall conduct sufficient sampling to define the boundaries of the contaminant sources to the level established in the Final RI/FS QAPP and DQOs. Defining the source of contamination shall include analyzing the potential for contaminant release (e.g., long-term leaching from soil), contaminant mobility and persistence, and characteristics important for evaluating remedial actions, including information to assess treatment technologies.

iv) Description of the Nature and Extent of Contamination - The Respondents shall gather information to describe the nature and extent of contamination, at or from the Site, as a final step during the field investigation. To describe the nature and extent of contamination, the Respondents shall utilize the information on the Site's physical and biological characteristics and sources of contamination to give a preliminary estimate of the contaminants that may have migrated. The Respondents shall then implement an iterative monitoring program and any study program identified in the Final RI/FS WP or SAP such that by using analytical techniques sufficient to detect and quantify the

concentration of contaminants, the migration of contaminants through the various media at the Site can be determined. In addition, the Respondents shall gather data for calculations of contaminant fate and transport. This process shall be continued until the area and depth of contamination are known to the level of contamination established in the Final RI/FS QAPP and DQOs. The EPA will use the information on the nature and extent of contamination to determine the level of risk presented by the Site and to help determine aspects of the appropriate remedial action alternatives to be evaluated.

b) Data Analyses - The Respondents shall analyze the data collected and develop or refine the Conceptual Site Model by presenting and analyzing data on source characteristics, the nature and extent of contamination, the transport pathways and fate of the contaminants present at the Site, and the effects on human health and the environment:

i) Evaluation of Site Characteristics: The Respondents shall analyze and evaluate the data to describe the Site's physical and biological characteristics, contaminant source characteristics (as necessary to identify principal threat or low threat wastes, and estimate waste volumes for risk assessment evaluation and remedial alternatives evaluation purposes), nature and extent of contamination, and contaminant fate and transport. Results of the Site's physical characteristics, source characteristics, and extent of contamination analyses are utilized in the analysis of contaminant fate and transport. The evaluation will include the actual and potential magnitude of releases from the sources, and horizontal and vertical spread of contamination as well as the mobility and persistence of the contaminants. Where modeling is appropriate, such models shall be identified by the Respondents to the EPA in a Technical Memorandum prior to their use. If EPA disapproves or requires revisions to the technical memorandum, in whole or in part, subject to the provisions in Section X of the AOC, Respondents shall amend and submit to EPA a revised technical memorandum on modeling which is responsive to directions and EPA's comments within thirty (30) calendar days after completing discussion of the EPA's comments on the draft technical memorandum (and in no event later than sixty (60) calendar days after receipt of the EPA's comments on the draft memorandum).

All data and programming, including any proprietary programs, shall be made available to the EPA together with a sensitivity analysis. The RI data shall be presented in a format to facilitate the Respondent's preparation of the Baseline Human Health and Ecological Risk Assessments (Task 7, Risk Assessments). All data shall be archived in a database in such a format that would be accessible to investigators as needed.

The Respondents shall agree to discuss and then collect additional data for any data gaps identified by the EPA that are needed to complete the risk assessments. Also, this evaluation shall provide any information relevant to the Site's characteristics necessary for evaluation of the need for remedial action in the risk assessments and for the development and evaluation of remedial alternatives. Analyses of data collected for the Site's characterization shall meet the DQOs developed in the Final RI/FS QAPP and stated in the Final RI/FS SAP (or revised during the RI).

c) Data Management Procedures – The Respondents shall consistently document the quality and validity of field and laboratory data compiled during the RI as follows:

i) Documentation of Field Activities - Information gathered during the Site's characterization shall be consistently documented and adequately recorded by the Respondents in well maintained field logs and laboratory reports. The method(s) of documentation shall be specified in the Final RI/FS WP and/or the SAP. Field logs shall be utilized to document observations, measurements, and significant events that have occurred during field activities. Laboratory reports shall document sample custody, analytical responsibility and results, adherence to prescribed protocols, nonconformity events, corrective measures, and data deficiencies.

ii) Sample Management and Tracking - The Respondents shall maintain field reports, sample shipment records, analytical results, and QA/QC reports to ensure that only validated analytical data are reported and utilized in the risk assessments and the development and evaluation of remedial alternatives. Analytical results developed under the Final RI/FS WP shall not be included in any characterization reports of the Site unless accompanied by or cross-referenced to a corresponding QA/QC report. In addition, the Respondents shall establish a data security system to safeguard chain-of-custody forms and other project records to prevent loss, damage, or alteration of project documentation.

34. Reuse Assessment - If EPA, in its sole discretion, determines that a Reuse Assessment is necessary, Respondents will perform the Reuse Assessment in accordance with the SOW, RI/FS Work Plan and applicable guidance (EPA 2001c). The Reuse Assessment should provide sufficient information to develop realistic assumptions of the reasonably anticipated future land use for the Site.

Task 7: Risk Assessments

35. The Respondents shall perform a Baseline Human Health Risk Assessment, Screening Level Ecological Risk Assessment, and a Baseline Ecological Risk Assessment (if necessary) for the Site, which will be a part of the RI Report. The Respondents will prepare one section of the Final RI/FS WP (Task 2) which discusses the risk assessment process and outlines the steps necessary for coordinating with the EPA at key decision points within the process. Submittal of deliverables, meetings and/or conference calls, and presentations to the EPA will be reflected in the project schedule in the Final RI/FS WP to demonstrate the progress made on the risk assessments. The DQOs listed within the Final RI/FS QAPP will include DQOs specific to risk assessment needs, and critical samples needed for the risk assessments will be identified within the Final RI/FS SAP. The Respondents shall develop an initial Conceptual Site Model which may be revised as new information is obtained. These risk assessments shall consist of both Human Health and Ecological Risk Assessments as follows:

a) Baseline Human Health Risk Assessment: The Respondents shall perform a Baseline Human Health Risk Assessment (BHHRA) to evaluate and assess the risk to human health posed by the contaminants present at the Site. The Respondents shall refer to the appropriate EPA guidance documents (EPA 1989b, 1991a, 1991b, 1991c, 1992a, and 2001b) in conducting the BHHRA. The Respondents shall address the following in the BHHRA:

- i) Hazard Identification (sources) - The Respondents shall review available information on the hazardous substances present at the Site and identify the major contaminants of concern.
- ii) Dose-Response Assessment - The Respondents, with concurrence from the EPA, shall select contaminants of concern based on their intrinsic toxicological properties and distribution in the environment.
- iii) Conceptual Exposure/Pathway Analysis - The Respondents shall identify and analyze critical exposure pathways (e.g., drinking water). The proximity of contaminants to exposure pathways and their potential to migrate into critical exposure pathways shall be assessed.
- iv) Characterization of Site and Potential Receptors - The Respondents shall identify and characterize human populations in the exposure pathways.
- v) Exposure Assessment - During the exposure assessment, the Respondents shall identify the magnitude of actual or potential human exposures, the frequency and duration of these exposures, and the routes by which receptors are exposed. The exposure assessment shall include an evaluation of the likelihood of such exposures occurring and shall provide the basis for the development of acceptable exposure levels. In developing the exposure assessment, the Respondents shall develop reasonable maximum estimates of exposure for both current land use conditions and potential future land use conditions at the Site.
- vi) Risk Characterization - During risk characterization, the Respondents shall compare chemical-specific toxicity information, combined with quantitative and qualitative information from the exposure assessment, to measured levels of contaminant exposure levels and the levels predicted through environmental fate and transport modeling. These comparisons shall determine whether concentrations of contaminants at or near the Site are affecting or could potentially affect human health.
- vii) Identification of Limitations/Uncertainties - The Respondents shall identify critical assumptions (e.g., background concentrations and conditions) and uncertainties in the BHHRA.
- viii) Conceptual Site Model - Based on contaminant identification, exposure assessment, toxicity assessment, and risk characterization, the Respondents shall develop a Conceptual Site Model for the Site.

The Respondents shall prepare and submit to the EPA for review and approval, according to the schedule specified in the Final RI/FS Work Plan, a Draft BHHRA. Subject to the provisions in Section X of the AOC, the Respondents shall submit a Final BHHRA within thirty (30) calendar days after completing discussion of the EPA's comments on the Draft BHHRA (an in no event

later than sixty (60) calendar days after receipt of the EPA's approval of the Draft BHHRA.

b) **Baseline Ecological Risk Assessment:** The Respondents shall perform the Baseline Ecological Risk Assessment (BERA) concurrently with the BHHRA. The BERA shall conform to current EPA guidance (EPA 1992a, EPA 1992b, EPA 1993, EPA 1997, and EPA 2001b). The scoping of all phases of the BERA shall follow the general approach provided in the EPA's guidance (EPA 1997) and shall include discussions between the Respondents and the EPA's risk assessors and risk managers. The BERA shall conform to the general outline provided in the EPA's guidance (EPA 1997).

The eight steps in the Baseline Ecological Risk Assessment (BERA) process include:

- Step 1 - Screening-Level Problem Formulation and Ecological Effects Evaluation,
- Step 2 - Screening-Level Preliminary Exposure Estimate and Risk Calculation,
- Step 3 - Baseline Risk Assessment Problem Formulation,
- Step 4 - Study Design and Data Quality Objectives,
- Step 5 - Field Verification and Sampling Design,
- Step 6 - Site Investigation and Analysis of Exposure and Effects,
- Step 7 - Risk Characterization, and
- Step 8 - Risk Management.

The Respondents shall interact closely with the EPA's Remedial Project Manager and risk assessment staff assigned to the Site to ensure that draft deliverables are acceptable and major rework is avoided on subsequent submittals. The scope of the BERA will be determined via a phased approach as outlined in the EPA's guidance documents and documented in the following deliverables:

i) **Step 1, Screening Level Problem Formulation and Ecological Effects Evaluation** - The "Screening Level Problem Formulation and Ecological Effects Evaluation" step is part of the initial ecological risk screening assessment. For this initial step, it is likely that site-specific information for determining the nature and extent of contamination and for characterizing ecological receptors at the Site is limited. This step includes all the functions of problem formulation (Steps 3 and 4) and ecological effects analysis, but on a screening level. The results of this step will be used in conjunction with exposure estimates during the preliminary risk calculation in Step 2 (Screening-Level Preliminary Exposure Estimate and Risk Calculation).

For the screening level problem formulation, the Respondents shall develop a Conceptual Site Model that addresses these five issues: 1) environmental setting and contaminants known or suspected to exist at the Site, 2) contaminant fate and transport mechanisms that might exist at the Site, 3) the mechanisms of ecotoxicity associated with contaminants and likely categories of receptors that could be affected, 4) the complete exposure pathways that might exist at the Site, and 5) selection of endpoints to screen for ecological risk.

The next step in the initial ecological risk screening assessment will be the preliminary

ecological effects evaluation and the establishment of contaminant exposure levels that represent conservative thresholds for adverse ecological effects. Screening ecotoxicity values shall represent a no-observed-adverse-effect-level for long-term exposures to a contaminant. Ecological effects of most concern are those that can impact populations (or higher levels of biological organizations), and/or individual receptors for state and federally listed threatened/endangered or rare species; and include adverse effects on development, reproduction, and survivorship. For some of the data reported in the literature, conversions may be necessary to allow the data to be used for measures of exposure other than those reported. The Respondents shall consult with the EPA's Remedial Project Manager and risk assessors concerning any extrapolations used in developing screening ecotoxicity values.

ii) Step 2, Screening-Level Exposure Estimate and Risk Calculation - The "Screening-Level Exposure Estimate and Risk Calculation" comprises the second step in the ecological risk screening assessment for the Site. Risk is estimated by comparing maximum documented exposure concentrations with the ecotoxicity screening values from Step 1. At the conclusion of Step 2, the Respondents shall decide, with concurrence from the EPA, that either the screening-level ecological risk assessment is adequate to determine that ecological threats are negligible, or the process should continue to a more detailed ecological risk assessment (Steps 3 through 7). If the process continues, the screening-level assessment serves to identify exposure pathways and preliminary contaminants of concern for the BERA by eliminating those contaminants and exposure pathways that pose negligible risks.

To estimate exposures for the screening-level ecological risk calculation, on-site contaminant levels and general information on the types of biological receptors that might be exposed should be known from Step 1. Only complete exposure pathways should be evaluated and the highest measured or estimated on-site contaminant concentration for each environmental medium should be used to estimate exposures, thereby ensuring that potential ecological threats are not missed.

The Respondents will estimate a quantitative screening-level risk using the exposure estimates developed according to Step 2 and the screening ecotoxicity values developed according to Step 1. For the screening-level risk calculation, the hazard quotient approach, which compares point estimates of screening ecotoxicity values and exposure values, is adequate to estimate risk.

At the end of Step 2, the Respondents shall decide, with concurrence from the EPA, whether the information available is adequate to support a risk management decision. The three possible decisions at this point will be: 1) There is adequate information to conclude that ecological risks are negligible and therefore no need for remediation on the basis of ecological risk; 2) The information is not adequate to make a decision at this point, and the ecological risk assessment process will continue to Step 3; or 3) The information indicates a potential for adverse ecological effects, and a more thorough assessment is warranted. The Respondents shall document the decision and the basis for

it in a Draft Screening Level Ecological Risk Assessment (SLERA) Report and submit it to the EPA for review and approval according to the project schedule in the Final RI/FS WP. The Respondents shall submit a Final SLERA within thirty (30) days after completing discussion of the EPA's comments on the Draft SLERA Report (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft SLERA Report).

iii) Step 3, Baseline Risk Assessment Problem Formulation - The "Baseline Risk Assessment Problem Formulation" step of the BERA will refine the screening-level problem formulation and expands on the ecological issues that are of concern at the Site. In the screening-level assessment, conservative assumptions are used where site-specific information is lacking. In Step 3, the results of the screening assessment and additional site-specific information are used to determine the scope and goals of the BERA. Steps 3 through 7 will be required only if the screening-level assessment, in Steps 1 and 2, indicated a need for further ecological risk evaluation.

Problem formulation at Step 3 will include the following activities: a) refining preliminary contaminants of ecological concern; b) further characterizing ecological effects of contaminants; c) reviewing and refining information on contaminant fate and transport, complete exposure pathways, and ecosystems potentially at risk; d) selecting assessment endpoints; and e) developing a CSM with working hypotheses or questions that the Site investigation will address.

At the conclusion of Step 3, the Respondents shall submit a Draft BERA Problem Formulation (PF) Report to the EPA for review and approval according to the project schedule in the Final RI/FS Work Plan. The Respondents shall submit a Final BERA PF Report within thirty (30) days after completing discussion of the EPA's comments on the Draft BERA PF Report (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft BERA PF Report). This report shall discuss the assessment endpoints, exposure pathways, risk questions, and the CSM integrating these components. The products of Step 3 will be used to select measurement endpoints and to develop the BERA Work Plan (WP) and Sampling and Analysis (SAP) for the Site in Step 4.

iv) Step 4, Study Design and Data Quality Objective Process - The "Study Design and Data Quality Objective Process" step of the BERA will establish the measurement endpoints which complete the CSM in Step 3. The CSM will then be used to develop the study design and DQOs. The deliverables of Step 4 will be the BERA WP and SAP, which describe the details of the Site's investigation as well as the data analysis methods and DQOs. The Draft BERA WP shall describe the assessment endpoints, exposure pathways, questions and testable hypotheses, measurement endpoints and their relation to assessment endpoints, and uncertainties and assumptions. The Draft BERA SAP shall describe data needs; scientifically valid and sufficient study design and data analysis procedures; study methodology and protocols, including sampling techniques; data reduction and interpretation techniques, including statistical analyses; and quality

assurance procedures and quality control techniques. The Respondents shall submit to the EPA for review and approval a Draft BERA WP and SAP according to the schedule specified in the Final RI/FS Work Plan. The Respondents shall submit a Final BERA WP and SAP within thirty (30) days after completing discussion of the EPA's comments on the Draft BERA WP and SAP (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft BERA WP and SAP).

v) Step 5, Field Verification of Sampling Design - The "Field Verification of Sampling Design" step of the BERA process will ensure that the DQOs for the Site can be met. This step verifies that the selected assessment endpoints, testable hypotheses, exposure pathway model, measurement endpoints, and study design from Steps 3 and 4 are appropriate and implementable at the Site. Step 6 of the BERA process cannot begin until the Final BERA WP and SAP are approved by the EPA.

vi) Step 6, Site Investigation and Analysis Phase - The "Site Investigation and Analysis Phase" of the BERA process shall follow the Final BERA WP and SAP developed in Step 4 and verified in Step 5. The Step 6 results are then used to characterize ecological risks in Step 7.

The Final BERA WP for the Site investigation will be based on the CSM and will specify the assessment endpoints, risk questions, and testable hypotheses. During the Site investigation, the Respondents shall adhere to the DQOs and to any requirements for co-located sampling. The analysis phase of the BERA process will consist of the technical evaluation of data on existing and potential exposures and ecological effects at the Site. This analysis will be based on the information collected during Steps 1 through 5 and will include additional assumptions or models to interpret the data in the context of the CSM. Changing field conditions and new information on the nature and extent of contamination may require a change to the Final BERA SAP.

vii) Step 7 - Risk Characterization - The "Risk Characterization" step is considered the final phase of the BERA process and will include two major components: risk estimation and risk description. Risk estimation will consist of integrating the exposure profiles with the exposure-effects information and summarizing the associated uncertainties. The risk description will provide information important for interpreting the risk results and will identify a threshold for adverse effects on the assessment endpoints. At the end of Step 7, the Respondents shall submit a Draft BERA Report to EPA for review and approval according to the project schedule in the Final RI/FS WP. The Respondents shall submit a Final BERA Report within thirty (30) days after completing discussion of the EPA's comments on the Draft BERA Report (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft BERA Report).

viii) Step 8 - Risk Management - "Risk Management" at the Site will be the responsibility of the EPA's Remedial Project Manager and risk assessor(s), who must balance risk reductions associated with cleanup of contaminants with potential impacts of the remedial actions themselves. In Step 7, a threshold for effects on the assessment

endpoint as a range between contamination levels identified as posing no ecological risk and the lowest contamination levels identified as likely to produce adverse ecological effects will be identified. In Step 8, the EPA's Remedial Project Manager and risk assessor(s) will evaluate several factors in deciding whether or not to clean up to within that range. This risk management decision will be finalized by the EPA in the Record of Decision for the Site.

Task 8: Treatability Studies

36. Treatability testing, if necessary, shall be performed by the Respondents to assist in the detailed analysis of alternatives. In addition, if applicable, testing results and operating conditions shall be used in the detailed design of the selected remedial technology. The following activities shall be performed by the Respondents:

- a) Determination of Candidate Technologies and of the Need for Testing - The Respondents shall identify candidate technologies for a treatability studies program.

The listing of candidate technologies will cover the range of technologies required for alternatives analysis. The specific data requirements for the testing program will be determined and refined during the characterization of the Site and the development and screening of remedial alternatives. The Respondents shall perform the following activities:

- i) Conduct of Literature Survey and Determination of the Need for Treatability Testing - The Respondents shall conduct a literature survey to gather information on performance, relative costs, applicability, removal efficiencies, operation and maintenance requirements, and implementability of candidate technologies. If practical technologies have not been sufficiently demonstrated, or cannot be adequately evaluated for this Site on the basis of available information, treatability testing may need to be conducted. Where it is determined by the EPA that treatability testing is required, and unless the Respondents can demonstrate to the EPA's satisfaction that they are not needed, the Respondents shall be required to submit a Treatability Study Work Plan to the EPA outlining the steps and data necessary to evaluate and initiate the treatability testing program.

- ii) Evaluation of Treatability Studies - Once a decision has been made to perform treatability studies, the Respondents and the EPA will decide on the type of treatability testing to use (e.g., bench versus pilot, etc.). Because of the time required to design, fabricate, and install pilot scale equipment as well as perform testing for various operating conditions, the decision to perform pilot testing shall be made as early in the process as possible to minimize potential delays of the Feasibility Study (Task 10). If the EPA determines that treatability studies are necessary, the Respondents shall submit a Draft Treatability Study Work Plan (TSWP), Sampling and Analysis Plan (SAP), and Health and Safety Plan within sixty (60) calendar days after the determination that treatability studies are necessary. Subject to the provisions in Section X of the AOC, the Respondents shall submit a Final TSWP, SAP, and HSP within thirty (30) days after completing discussion of the EPA's comments on the Draft TSWP (and in no event later than sixty (60) calendar days after receipt of the EPA's comments on the Draft TSWP).

The EPA will not approve the TS HSP but may provide comments to the Respondents.

The Respondents shall submit a Draft Treatability Study (TS) Report to the EPA for review and approval according to the project schedule in the Final Treatability Study Work Plan. Subject to the provisions in Section X of the AOC, the Respondents shall submit a Final TS Report within thirty (30) calendar days after completing discussion of the EPA's comments on the Draft TS Report (and in no event later than sixty (60) calendar days after receipt of the EPA's comments of the Draft TS Report. This report shall evaluate the technology's effectiveness and implementability in relation to the Preliminary Remediation Goals established for the Site. Actual results must be compared with predicted results to justify effectiveness and implementability discussions.

Task 9: Remedial Investigation Report

37. The Respondents shall prepare and submit a Remedial Investigation (RI) Report. The Respondents shall refer to the EPA's guidance document entitled, "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b), including Table 3-13 (Suggested RI Report Format), for the RI Report format and the required content. The Respondents shall discuss the RI Report format and the required content with the EPA's Remedial Project Manager early in the RI/FS process. The information shall include a summary of the results of the field activities to characterize the Site, classification of ground water beneath the Site, nature and extent of contamination for all media, and appropriate site-specific discussions for fate and transport of contaminants. The Respondents shall incorporate the results of Task 7 (Risk Assessments) into the RI Report, as appropriate.

The Respondents shall submit a Draft RI Report to the EPA for review and approval according to the project schedule in the Final RI/FS Work Plan. Subject to the provisions in Section X of the AOC, the Respondents shall submit a final RI Report within thirty (30) calendar days after completing discussion of the EPA's comments on the Draft RI Report (and in no event later than sixty (60) calendar days after receipt of the EPA's comments on the Draft RI Report).

Task 10: Feasibility Study

38. The Respondents shall perform a Feasibility Study (FS) as specified in this SOW. The FS shall include, but not be limited to, the development and screening of alternatives for remedial action, a detailed analysis of alternatives for remedial action, and submittal of Draft and Final FS Reports as follows:

- a) Development and Screening of Alternatives for Remedial Action - The Respondents shall develop an appropriate range of remedial alternatives that will be evaluated through development and screening.
- b) Detailed Analyses of Alternatives for Remedial Action - The Respondents shall conduct a detailed analysis of remedial alternatives for the candidate remedies identified during the screening process described in this Task. This detailed analysis shall follow the EPA's guidance document entitled, "Interim Final Guidance for Conducting Remedial Investigations and

Feasibility Studies Under CERCLA" (EPA 1988b) and other appropriate guidance documents. The major components of the Detailed Analysis of Alternatives for Remedial Action shall consist of an analysis of each option against a set of evaluation criteria and a separate discussion for the comparative analysis of all options with respect to each other in a manner consistent with the NCP. The Respondents shall not consider state and community acceptance during the Detailed Analysis of Alternatives. The EPA will perform the analysis of these two criteria. At the conclusion of the Detailed Analysis of Alternatives and within the time frame specified in the project schedule in the Final RI/FS WP, the Respondents shall provide the EPA with a Draft FS Report as outlined below.

Draft Feasibility Study Report - The Respondents shall submit to the EPA, for review and approval, a Draft FS Report which documents the activities conducted during the Development and Screening of Alternatives and the Detailed Analyses of Alternatives, as described above, according to the project schedule in the Final RI/FS WP. The Respondents shall refer to the EPA's guidance document entitled, "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (EPA 1988b), specifically Table 6-5 (Suggested FS Report Format) for FS Report content and format.

c) Final Feasibility Study Report – The Draft FS Report shall provide the basis for the Proposed Plan developed by the EPA under CERCLA and shall document the development and analysis of remedial alternatives. The Draft FS Report may be subject to change following comments received during the public comment period on the EPA's Proposed Plan. The EPA will forward any comments pertinent to content of the Draft FS Report to the Respondents. Subject to the provisions in Section X of the AOC, the Respondents shall submit a Final FS Report within thirty (30) calendar days after completing discussion of the EPA's comments (and any public comments provided by EPA) on the Draft FS Report (and in no event later than sixty (60) calendar days after the receipt of comments from EPA on the Draft FS Report).

APPENDIX A
SCHEDULE OF DELIVERABLES/MEETINGS
STATEMENT OF WORK
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
CEDAR CHEMICAL CORPORATION SUPERFUND SITE

DELIVERABLE	DUE DATE (CALENDAR DAYS)
1. Scoping Phase Meeting	Meeting to be scheduled within fourteen (14) days after the effective date of the AOC.
2. Draft and Final RI/FS Work Plan (WP)	Draft due within sixty (60) days after the Scoping Phase Meeting. Final due within thirty (30) days after completing discussion of the EPA's comments on the Draft RI/FS Work Plan (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft RI/FS Work Plan)
3. Draft and Final RI/FS Sampling and Analysis Plan (SAP)	Draft due within sixty (60) days after the Scoping Phase Meeting. Final due within thirty (30) days after completing discussion of the EPA's comments on the Draft RI/FS SAP (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft RI/FS Work SAP)
4. RI/FS Site Health and Safety Plan	Plan due within sixty (60) days after the Scoping Phase Meeting.
5. Draft and Final Technical Memorandum on Modeling of Site Characteristics	Draft due when Respondents propose that modeling is appropriate. Final due within thirty (30) days after completing discussion of the EPA's comments on the draft memorandum (and in no event later than sixty (60) days after receipt of the EPA's comments on the draft memorandum).
6. Draft and Final Baseline Human Health Risk Assessment (BHHRA)	Draft due as specified in the Final RI/FS WP. Final due within thirty (30) days after completing discussion of the EPA's comments on the Draft BHHRA (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft BHHRA).
7. Draft and Final Screening Level Ecological Risk Assessment (SLERA) Report	Draft due as specified in the Final RI/FS WP. Final due within thirty (30) days after completing discussion of the EPA's comments on the Draft SLERA Report (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft SLERA Report).
8. Draft and Final Baseline Ecological Risk Assessment (BERA) Problem Formulation (PF) Report	Draft due as specified in the Final RI/FS WP. Final due within thirty (30) days after completing discussion of the EPA's comments on the Draft BERA PF Report (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft BERA PF Report).

APPENDIX A (CONTD.)
SCHEDULE OF DELIVERABLES/MEETINGS
STATEMENT OF WORK
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
CEDAR CHEMICAL CORPORATION SUPERFUND SITE

DELIVERABLES/MEETINGS	DUE DATES (CALENDAR DAYS)
9. Draft and Final Baseline Ecological Risk Assessment (BERA) Work Plan (WP) and Sampling and Analysis Plan (SAP)	Draft due as specified in the Final RI/FS WP. Final due within thirty (30) days after completing discussion of the EPA's comments on the Draft BERA WP and SAP (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft BERA WP and SAP).
10. Draft and Final Baseline Ecological Risk Assessment (BERA) Report	Draft due as specified in the Final RI/FS WP. Final due within thirty (30) days after completing discussion of the EPA's comments on the Draft BERA Report (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft BERA Report).
11. Draft and Final Treatability Study (TS) Work Plan (WP), Sampling and Analysis Plan (SAP), and Health and Safety Plan	Draft due within sixty (60) calendar days after the determination that treatability studies are necessary. Final due within thirty (30) days after completing discussion of the EPA's comments on the Draft TSWP (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft TSWP).
12. Draft and Final Treatability Study (TS) Report	Draft due as specified in the Final RI/FS WP. Final due within thirty (30) days after completing discussion of the EPA's comments on the Draft TS Report (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft TS Report).
13. Draft and Final Remedial Investigation (RI) Report	Draft due as specified in the Final RI/FS WP. Final due within thirty (30) days after completing discussion of the EPA's comments on the Draft RI Report (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft RI Report).
14. Draft and Final Feasibility Study (FS) Report	Draft due as specified in the Final RI/FS WP. Final due within thirty (30) days after completing discussion of the EPA's comments on the Draft FS Report (and in no event later than sixty (60) days after receipt of the EPA's comments on the Draft FS Report).

APPENDIX B
GUIDANCE DOCUMENTS
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
CEDAR CHEMICAL CORPORATION SUPERFUND SITE

The following list comprises some of the guidance documents that are applicable to the Remedial Investigation and Feasibility Study process. The Respondents should consult with EPA's Remedial Project Manager for additional guidance and to ensure that the following guidance documents have not been superseded by more recent guidance:

U.S. Environmental Protection Agency (EPA) 1987a. "Data Quality Objectives for Remedial Response Activities." Office of Emergency and Remedial Response and Office of Waste Programs Enforcement. EPA/540/G-87/003. OSWER Directive No. 9335.0-7b. March 1987.

EPA 1987b. "Interim Guidance on Compliance with Applicable or Relevant and Appropriate Requirements." Office of Emergency and Remedial Response. OSWER Directive No. 9234.0-05. July 9, 1987.

EPA 1988a. "CERCLA Compliance with Other Laws Manual." Office of Emergency and Remedial Response. OSWER Directive No. 9234.1-01. August 1988.

EPA 1988b. "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA." Office of Emergency and Remedial Response. EPA/540/G-89/004. OSWER Directive No. 9355.3-01. October 1988.

EPA 1989a. "CERCLA Compliance with Other Laws Manual: Part II. Clean Air Act and Other Environmental Statutes and State Requirements." Office of Emergency and Remedial Response. OSWER Directive No. 9234.1-02. August 1989.

EPA 1989b. "Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A)." Office of Emergency and Remedial Response. EPA/540/1-89/002. OSWER Directive No. 9285.7-01A. December 1989.

EPA 1991a. "Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors." Office of Emergency and Remedial Response. OSWER Directive No. 9235.6-03. March 1991.

EPA 1991b. "Risk Assessment Guidance for Superfund: Volume I, Human Health Evaluation Manual (Part B), Development of Risk-Based Preliminary Remediating Goals." Office of Emergency and Remedial Response. OSWER Directive No. 9285.7-01B. December 1991.

EPA 1991c. "Risk Assessment Guidance for Superfund: Volume I, Human Health Evaluation Manual (Part C), Risk Evaluation of Remedial Alternatives." Office of Emergency and Remedial Response. OSWER Directive No. 9285.7-01C. 1991.

EPA 1992a. "Guidance for Data Useability in Risk Assessment." Office of Emergency and Remedial

Response. OSWER Directive No. 9285.7-09A. April 1992 (and Memorandum from Henry L. Longest dated June 2, 1992).

EPA 1992b. "Supplemental Guidance to RAGS: Calculating the Concentration Term." Office of Emergency and Remedial Response. OSWER Directive No. 9285.7-081. May 1992.

EPA 1997. "Ecological Risk Assessment Guidance for Superfund, Process for Designing and Conducting Ecological Risk Assessments." Office of Emergency and Remedial Response. EPA/540-R-97-006. June 5, 1997.

EPA 2000. "Guidance for the Data Quality Objectives Process." EPA QA/G-4, EPA/600/R-96/055. August 2000.

EPA 2001a. "EPA Requirements for Quality Assurance Project Plans." Office of Environmental Information. EPA QA/R-5. EPA/240/B-01/003. March 2001.

EPA 2001b. "Risk Assessment Guidance for Superfund, Volume 1 - Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments). Final. Publication 9285.7-47. December 2001.

EPA 2001c. "Reuse Assessments: A Tool to Implement The Superfund Land Use Directive." OSWER 9355.7-06P", June 2001 available at

EPA 2002. "EPA Guidance for Quality Assurance Project Plans." EPA QA/G-5. EPA/240/R-02/009. December 2002.

EPA 2009a. "U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response Principles for Greener Cleanups" August 2009 available at
http://www.epa.gov/oswer/greenercleanups/pdfs/oswer_greencleanup_principles.pdf

EPA 2009b. "EPA Region 6 Clean and Green Policy" September 2009 available at
<http://www.cluin.org/greenremediation/docs/R6GRPolicy.pdf>

APPENDIX C
APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
CEDAR CHEMICAL CORPORATION SUPERFUND SITE

A preliminary list of probable Applicable or Relevant and Appropriate Requirements (ARARs) will be generated by the Respondents during the Remedial Investigation and Feasibility Study process. This list will be compiled according to established EPA guidance, research of existing regulations, and collection of site-specific information and data. Three types of ARARs will be identified:

- 1) Chemical-Specific ARARs: These ARARs are usually health- or risk-based numerical values or methodologies used to determine acceptable concentrations of chemicals that may be found in or discharged to the environment (e.g., maximum contaminant levels that establish safe levels in drinking water).
- 2) Location-Specific ARARs: These ARARs restrict actions or contaminant concentrations in certain environmentally sensitive areas. Examples of areas regulated under various Federal laws include floodplains, wetlands, and locations where endangered species or historically significant cultural resources are present.
- 3) Action-Specific ARARs: These ARARs are usually technology- or activity-based requirements or limitations on actions or conditions involving specific substances.

Chemical- and location-specific ARARs are identified early in the process, generally during the site investigation, while action-specific ARARs are usually identified during the Feasibility Study in the detailed analysis of alternatives.

ENCLOSURE 4

Reconciliation Pending
Itemized Cost Summary

CEDAR CHEMICAL CORPORATION, WEST HELENA, AR SITE ID = 06 NH

UNRECONCILED COST FROM 10/07/2006 THROUGH 01/07/2014

SPECIAL NOTICE FOR RI/FS

REGIONAL PAYROLL COSTS	\$70,030.44
REGIONAL TRAVEL COSTS	\$2,278.67
EMERGENCY REMOVAL CLEANUP (ERC) CONTRACT	
ENVIRONMENTAL QUALITY MANAGEMENT , INC. (68-S6-0201)	(\$1,127.82)
ENFORCEMENT SUPPORT SERVICES (ESS)	
TOEROEK ASSOCIATES, INC. (EPW10011)	\$103,053.08
INTERAGENCY AGREEMENT (IAG)	
DEPARTMENT OF JUSTICE (DW159219466)	\$4.67
RECORDS MANAGEMENT/ DOCUMENT CONTROL	
SCIENCE APPLICATION INT'L CORP. (EPR60801)	\$1,173.66
REGIONAL OVERSIGHT CONTRACT (REDI-SUBCLASS)	
DYNAMAC CORPORATION (EPW06077)	\$8,564.80
SUPERFUND COOPERATIVE AGREEMENT (SCA)	
ARKANSAS DEPARTMENT OF POLLUTION CONTROL & ECOLOGY (V00F65)	\$1,260.36
SUPERFUND TECH ASSIST AND RESPONSE TEAM (START)	
WESTON SOLUTIONS, INC. (68-W0-1005)	(\$14.88)
MISCELLANEOUS COSTS (MIS)	\$50.00
EPA INDIRECT COSTS	\$78,529.79
Total Site Costs:	\$263,802.77

ENCLOSURE 5

ENCLOSURE 5
Parties Receiving This Mailing

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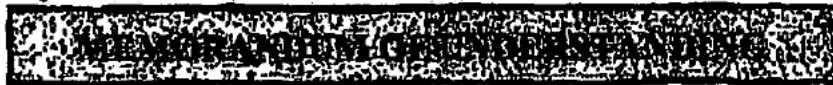
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CC: Ken Rike
GB Biosciences Corporation
2239 Haden Road
Houston, Texas 77015

ENCLOSURE 6

File *Cylo Anal'ds*



THIS MEMORANDUM OF UNDERSTANDING is made and entered into as of the date last below written, by and between

Cedar Chemical Corporation, a Delaware corporation, having its principal place of business at Suite 2414 Clark Tower, 5100 Poplar Avenue, Memphis, Tennessee 38137 (hereinafter referred to as "CEDAR"),

and

Rhône-Poulenc Agro Matières Actives, a French "société en nom collectif" having its registered office at 14/20, rue Pierre Balzet - 69009 LYON-France (hereinafter referred to as "Rhône-Poulenc,"

Witnesseth:

- ◆ WHEREAS, Rhône-Poulenc desires to retain an independent third party contractor to toll manufacture for it Cyclanilide (1-(2,4-dichlorophenyl)iminocarbonyl)-cyclopropane carboxylic acid) (hereinafter "Product") from 2,4 DCA (2,4 Dichloro aniline) (hereinafter "DCA") and (cyclopropane-1,1-dicarboxylic acid dimethyl ether (CPDM) (hereinafter "CPDM"), DCA and CPDM together with Sodium Methoxide (hereinafter "NaMO") being sometimes referred collectively herein as the "Raw Materials"; and
- ◆ WHEREAS, CEDAR owns and operates a chemical manufacturing facility located at West Helena, Arkansas which, following installation of certain capital improvements and equipment estimated to cost approximately \$750,000 (the "Capital Improvements"), is deemed capable of producing Product from DCA and CPDM utilizing Rhône-Poulenc's manufacturing process (the "Process") disclosed by Rhône-Poulenc to Cedar pursuant to a Secrecy Agreement between Rhône-Poulenc and Cedar dated as of May 14, 1999 (the "Secrecy Agreement"); and processes disclosed to Cedar pursuant to a Secrecy Agreement between Rhône-Poulenc and Cedar dated as of November 22, 1999 (the "Degussa Secrecy Agreement").
- ◆ WHEREAS, It is agreed that CEDAR and Rhône-Poulenc shall promptly commence negotiations with each other in good faith with the intent of reaching

an agreement (the "Agreement") satisfactory in form and substance to their respective managements and incorporating the terms and principles set forth herein.

NOW, THEREFORE, in consideration of the premises and the terms and conditions herein contained, the Parties agree as follows:

Article 1 - Purpose. The purpose of this Memorandum of Understanding is to set forth the terms and principles under which the parties will negotiate in good faith with the objective of entering into a toll manufacturing and supply Agreement whereby Cedar will produce Product for Rhone-Poulenc, and under which Cedar will initiate engineering studies and make equipment purchase commitments to enable it to construct and complete the Capital Improvements in time to begin producing Product for Rhone-Poulenc in the fourth quarter of the year 2000 in the quantities and in accordance with the terms and conditions set forth herein.

Article 2 - Agreement. The parties intend to negotiate in good faith with the objective of entering into an Agreement which will include among other terms, the following provisions:

A. **Term.** The initial term shall be from the date of execution of the Agreement through December 31, 2003, consisting of an initial partial year period (the "Partial Year Period") and three (3) contract years (the "Contract Years"). The Partial Year Period shall be from the effective date of the Agreement through December 31, 2000, the first Contract Year (the "First Contract Year") shall be from January 1, 2001 through December 31, 2001, the second Contract Year (the "Second Contract Year") shall be from January 1, 2002 through December 31, 2002, and the last Contract Year (the "Last Contract Year") of the initial term shall be the period from January 1, 2003 through December 31, 2003. Thereafter, the term of the Agreement shall be renewed for successive two year periods unless terminated by either party upon notice to the other not less than one (1) year prior to the end of the initial term or one year prior to the end of any extension of the initial term of Agreement; provided that the Agreement shall not be so extended unless, prior to the end of the initial term or of any extended term, the parties will have negotiated and reached mutual agreement in respect of the terms of such extension (including the price and quantity).

B. **Raw Materials.** Rhone-Poulenc shall be responsible for supplying Cedar, at its cost, the Raw Materials in sufficient quantities to enable Cedar to produce, in continuous campaigns, scheduled in accordance with the provisions of Article 2D, all quantities of Product ordered by Rhone-Poulenc, provided that in the event Cedar is able to obtain a more favorable price than Rhone-Poulenc for purchase of NaMO, following prior approval from Rhone-Poulenc, Cedar shall purchase such

quantities of NaMO as shall be required for it to perform hereunder, but for the account of Rhone-Poulenc. Cedar shall supply, at its cost, all raw materials other than the Raw Materials and Rhone-Poulenc shall reimburse Cedar its actual cost for the purchase of such raw material within thirty (30) days following the date of Cedar's invoice, provided that Cedar shall in all cases employ a reasonable competitive purchasing process.

C. **Product.** Rhone-Poulenc shall order and Cedar shall produce from Raw Materials supplied by Rhone-Poulenc not less than four hundred twenty (420) metric tons of Product during the initial term of this Agreement. Not less than eighty (80) metric tons of Product shall be produced by Cedar for Rhone-Poulenc during the Partial Year Period. Rhone-Poulenc currently estimates that it will order approximately one hundred sixty (160) metric tons of Product during the First Contract Year. In the event Rhone-Poulenc shall not have ordered and purchased from Cedar at least four hundred twenty (420) metric tons of Product by the end of the Second Contract Year, subject to the terms hereof, it shall order the balance of its four hundred twenty (420) metric ton commitment from Cedar for production during the Last Contract Year.

D. **Scheduling.** Rhone-Poulenc shall submit its good faith estimate of its orders for Product to be produced by Cedar in each calendar year during the term hereof by no later than July 1 of the previous calendar year, provided that such estimate will be for the purpose of facilitating scheduling of manufacture only and will not be binding, provided that a firm order will be issued by Rhone-Poulenc by October 31 of such year. The quantity of Product to be produced by Cedar in the Partial Year Period, as specified in Paragraph C, shall be considered a firm order, provided that, if Rhone-Poulenc is not able to import sufficient quantities of Raw Materials in the United States for reasons beyond Rhone-Poulenc's control, Rhone-Poulenc shall have no minimum volume commitment for the Partial Year Period. Except for Product to be produced during the Partial Year Period, no production campaign scheduled by the parties in any Contract Year, shall be for less than one hundred fifty (150) metric tons, and only one production campaign shall be scheduled in each Contract Year. If Rhone-Poulenc fails to issue a firm order for at least one hundred fifty (150) metric tons of Product for production by Cedar in any Contract Year, Cedar will be relieved of any responsibility to produce Product for Rhone-Poulenc during such Contract Year, and shall have unrestricted use of its manufacturing facility, including the Capital Improvements, during such Contract Year.

E. **Raw Material Usage.** Maximum usage factors applicable to consumption of Raw Materials (expressed in kilograms of Raw Materials consumed per kilogram of Product) shall be determined based on actual results achieved during the production of the initial eighty (80) metric tons of Product during the Partial Contract

Year. Thereafter, any over-consumption of Raw Materials (of more than 3.5%) shall be for Cedar's account. The savings on any under-consumption of Raw Materials of more than 3.5% shall be shared equally by the parties.

F. **Capital Improvements.** Cedar's cost of Capital Improvements shall be amortized over the minimum four hundred twenty (420) metric tons of Product to be produced by Cedar and paid for by Rhone-Poulenc during the initial term of the Agreement. For example, if the agreed cost of the Capital Improvements for which Rhone-Poulenc shall be responsible is \$750,000.00, \$1.79 for each kilogram of Product purchased by Rhone-Poulenc from Cedar hereunder shall be credited to Rhone-Poulenc's obligation to reimburse Cedar's cost of Capital Improvements. The foregoing notwithstanding, Rhone-Poulenc shall in any event be responsible for reimbursing Cedar at least twenty percent (20%) of its cost of Capital Improvements by the December 31, 2001; an additional forty percent (40%) of its cost of Capital Improvements by December 31, 2002; and the balance of its costs of Capital Improvements by December 31, 2003.

G. **Startup.** Rhone-Poulenc shall provide reasonable technical assistance to Cedar during startup of the initial campaign.

H. **Waste Disposal.** The parties shall cooperate to determine the most cost effective and environmentally sound method to dispose of wastes generated by production of Product. Costs of waste disposal shall be for Rhone-Poulenc's account, provided that the cost of the waste disposal charge to Rhone-Poulenc shall not exceed a mutually agreed amount per kilogram of Product which will be determined by the parties prior to execution of the Agreement.

I. **Toll Fees.** Cedar's toll manufacturing fees for production of Product for Rhone-Poulenc during the initial term shall be \$8.00 per kilogram for all Product order for production beginning in the Partial Year Period. Thereafter, Cedar's toll manufacturing fees for Product order by Rhone-Poulenc in a Contract Year shall be (i) \$7.00 per kilogram if Rhone-Poulenc orders and purchases from Cedar between one hundred fifty (150) metric tons and two hundred (200) metric tons of Product during such Contract Year; and (ii) \$8.50 per kilogram if Rhone-Poulenc orders and purchases from Cedar more than two hundred (200) metric tons during such Contract Year. The parties shall agree on an escalation formula by which the fees set forth above (which fees include amounts relating to the depreciation of the Capital improvements referred to in Article 2(F) above) may be adjusted annually starting with the Second Contract Year to reflect increases in manufacturing costs. Cedar shall invoice Rhone-Poulenc at the end of each month during the term of the Agreement for all quantities of Product produced during such month, at the applicable toll manufacturing fee, and for all raw materials (including NaMO) purchased by Cedar hereunder. Such invoices shall be due and payable by Rhone-Poulenc thirty (30) days from date of invoice.

J. Miscellaneous. The Agreement shall contain additional terms and provisions normally contained in agreements of this nature.

Article 3 - Schedule of Target Dates.

A. It is the parties' objective that on or before March 15, 2000, Cedar shall submit to Rhone-Poulenc detailed engineering drawings describing the Capital Improvements, and its final estimated cost to install the Capital Improvements and Rhone-Poulenc shall have delivered to Cedar its detailed specifications for Product and Raw Materials.

B. The parties to agree to work together with the goal of reaching, on or before March 15, 2000, final agreement concerning the documents describing the Capital Improvements, including the agreed cost of same to be amortized over the initial term of Agreement. The parties shall also work together with the objective of reaching written agreement as to the Product and Raw Material specifications. Once mutually agreed upon, such documents will be used as Exhibits to the Agreement. The Capital Improvements documents shall include a schedule of the costs incurred and to be incurred by Cedar while negotiation of the Agreement is pending. All such costs and contractual commitments incurred by Cedar as set out in such schedule of costs shall be for Rhone-Poulenc's account, either for amortization and reimbursement in accordance with the provisions of Article 2F hereinabove, or, alternatively, in the event that, following good faith negotiations, either party determines that it cannot reach agreement with the other party on the terms of the Agreement, or in any event the Agreement is not executed by the parties on or before May 1, 2000, or, if the Agreement is executed by the parties, but is subsequently terminated for reasons other than for default by Cedar prior to the end of the initial term, such costs (to the extent incurred by Cedar and unamortized) shall be paid in full by Rhone-Poulenc to Cedar upon the occurrence of any such event.

C. On or before April 1, 2000, Rhone-Poulenc shall prepare and deliver to Cedar a proposed first draft of the Agreement.

D. The parties will work together with the objective of submitting a final draft of the Agreement prior to their respective managements for approval on or before May 1, 2000.

Article 4 - Nature of Agreement. The provisions of this Memorandum of Understanding do not constitute and will not give rise to any legally binding obligation on the part of each of the parties except in respect to Articles 3.B, 5 and 6, which the parties intend to be binding.

Article 5 - Confidentiality. The parties hereby agree that any information exchanged pursuant hereto shall be subject to the provisions of the Secrecy Agreement and shall be considered "Confidential Information" as such term is defined in the Secrecy Agreement, provided that: (i) the parties hereby agree to extend the term of the Secrecy Agreement until December 31, 2000 and (ii) any information exchanged pursuant hereto which would constitute Degussa-Huls Confidential Information as such term is defined in the Degussa Secrecy Agreement, shall be subject to the Degussa Secrecy Agreement

Article 8 - Dispute Resolution. Applicable Law. All disputes arising in connection with the present Memorandum of Understanding shall be finally settled under the rules of Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said Rules.

The arbitration shall be conducted in the English Language in New York City.

This Memorandum of Understanding shall be construed in accordance with and governed by the laws of the State of New York.

Executed by the parties, acting by and through their authorized representatives, as of the dates appearing below.

CEDAR CHEMICAL CORPORATION

By: _____

Date: _____

RHÔNE-POULENC AGRO MATIÈRES ACTIVES

By: _____

Date: _____